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THE COMPLEMENT FIXATION TEST FOR SYPHILIS.

(MODIFIED WASSERMANN.)

DESCRIPTION OF A METHOD AT PRESENT IN USE AT THE HYGIENIC LABORATORY.

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In view of the increasing use of the complement fixation test for syphilis in connection with efforts to prevent venereal diseases throughout the country, the following statement has been prepared to describe a method of performing this test now in use at the Hygienic Laboratory of the United States Public Health Service.

Apparatus, Specifications and Descriptions.

Specifications for the laboratory apparatus specially needed are given below. Where quantities are stated (figures in parentheses) the estimate is based on the performance of 100 tests at a time two or three times a week, allowing an interval for cleaning and sterilizing apparatus for the next tests. Where articles are solely for use in the preparation of antigen and hæmolytic amboceptor a note to this effect follows.

Test-tube racks, water baths, and an ice box superior to the ordinary refrigerator in the maintenance of a low temperature may readily be constructed by the tinsmith and carpenter at a saving over the market prices.

An autoclave or Arnold sterilizer and dry (hot air) sterilizer, a balance, materials for cleaning glassware, etc., form part of the equipment of any bacteriologic laboratory and do not need to be specially described. Following are detailed specifications of articles used in connection with the Wassermann tests.

Burner (for water bath):

Micro, 2½ inches high, with long stem (1).

Centrifuge: High speed, electric drive (1).

Type, International Equipment Co. Complete with 4-tube 50 cc. head and accessories, and 4-tube 15 cc. head and accessories.

Centrifuge tubes:

15 cc. ungraduated (12).

50 cc. for International Equipment Co. centrifuge (6).

Flasks, filtering, Erlenmeyer shape, of heavy glass to withstand pressure, with side neck, 2,000 cc. capacity (2) (for making antigen only).

Flasks, Erlenmeyer pyrex glass:

100 cc. (6).

500 cc. (6).

Glass cylinders with ground-glass stoppers, single graduations:

25 cc. (3).

100 cc. (3).

250 cc. (3).

Ice box:

A straight-sided earthenware crock, about a foot high and of about that diameter, is placed inside a packing box about 2 feet square. Sawdust is packed around the crock, filling the box so that the top of the crock is flush with the top of the box. Inside the crock is placed a pail of about two-thirds the diameter of the crock, and cracked ice is packed between the pail and the crock. For a cover, a section cut out of the wooden box above the pail completes the outfit. Reagents placed in the pail may be preserved at a temperature of 4° C. if care be taken to maintain the supply of ice.

Needles, hollow, nickel-plated Luer slips:

Gauge 18 (6).

Gauge 23 (6) (for intravenous inoculation of rabbits for amboceptor production).

Syringe, all-glass, Luer type, 10 cc. capacity (2).

Syringe, all-glass, Luer type, 20 cc. capacity (2).

Test tubes, 120 mm. by 16 mm., of clear white, noncorrosive glass (230).

Test glasses, conical shape, low, wide form, with broad flat bottom. Capacities:

50 cc. (6).

100 cc. (6).

250 cc. (6).

Test-tube baskets, of brass wire, rectangular shape, opening 120 by 100 mm., 130 mm. deep (5).

Test-tube racks (2), constructed of sheet copper or galvanized iron, about 24 gauge, dimensions $17\frac{1}{2}$ inches long, $5\frac{1}{2}$ inches wide, $2\frac{1}{2}$ inches high.

The rack consists essentially of 3 pieces of sheet metal placed one above the other, the top sheet $2\frac{1}{2}$ inches above the bottom and the middle sheet one-half inch above the bottom one. These are securely fastened together at the ends by bent-up extensions of the bottom piece, to which the other portions of the rack are riveted. The two upper sheets are perforated with 6 rows of 16 holes, $\frac{1}{4}$ -inch or slightly larger, large enough to hold the test tubes. Bent wire handles attached at each end of the rack are a convenience.

Thermometers, chemical, long stem, centigrade scale, -10 to $+110^{\circ}$ (4).

Thermo regulator, Roux bimetallic, length 10 inches (1).

Pipettes, Mohr type:

Capacity 10 cc., graduated in $\frac{1}{10}$ cc. (10).

Capacity 5 cc., graduated in $\frac{1}{10}$ cc. (10).

Capacity 2 cc., graduated in $\frac{1}{10}$ cc. (10).

Capacity 1 cc., graduated in $\frac{1}{10}$ cc. (120).

Graduation marks on pipettes should not extend nearer than $3\frac{1}{2}$ inches to the end opposite the tip.

Pipette boxes 16 inches long, $2\frac{1}{2}$ inches diameter (for holding pipettes during sterilization), cylindrical in form, of copper with tightly fitting lid: (3)

Water bath:

A rectangular tank 18 inches long, 13 inches wide, and 8 inches in diameter is made water-tight, of sheet metal, about 20-gauge copper or galvanized iron. It is open at the top and fitted with a suitable cover. The bath is supported in

any suitable way so as to allow about 10 inches space beneath it. Inside the bath is placed a rack of galvanized-iron wire 2 or 3 inches from the bottom. At one corner of the bath is fitted a Roux bimetallic thermoregulator with rubber connection to the gas cock, and the microburner which is placed under the bath. The bath is filled two-thirds full of water at about 37.5°C . and the regulator adjusted till this temperature is constantly maintained, as shown by a thermometer kept in the bath.

Water pump (vacuum):

Filter type (1) (for making antigen).

Preparation of glassware:

Cleaning. All new glassware should be cleaned by immersion in a mixture of potassium bichromate, 120 gm.; water, 800 cc.; concentrated sulphuric acid, 600 cc. Pulverize the bichromate and dissolve in the water. Then add the sulphuric acid slowly. After removal from this mixture the apparatus must be thoroughly rinsed to remove every trace of acid. After use, glassware should be thoroughly rinsed in cold water to remove serum or blood, then scrubbed with soap-powder solution, rinsed thoroughly with running water, and finally with distilled water. Test tubes should be packed, inverted, in a basket and thoroughly dried in the hot-air oven. Pipettes may conveniently be sterilized in copper pipette boxes.

All other articles of glass should be sterilized by heat, except the glass measuring cylinders, which are easily broken. These should be made chemically clean and rinsed with 0.9 per cent sodium chlorid solution before use. In serological work sterility is desirable; chemical cleanliness of all glassware is essential.

Reagents, Special Substances Used in the Tests.

PREPARATION AND PRESERVATION.

Sodium chlorid solutions.—A nine-tenths per cent solution of the chemically pure salt in distilled water is made up by weight, distributed in 500 cc. Erlenmeyer flasks and sterilized by steam.

Saturated sodium chlorid solution.—Is made by saturating a small sterile bottle of distilled water with the chemically pure salt. The bottle is to be kept at room temperature.

Sheep's blood corpuscles.—These are best obtained by bleeding a sheep from the jugular vein by use of a sterile syringe, previously rinsed with saline solution, transferring the blood immediately to a sterile 50 cc. Erlenmeyer flask containing sterile glass fragments, and agitating for 15 minutes, avoiding foaming, thus defibrinating the blood. Sheep's corpuscles can also be obtained at the abattoir by catching the blood coming from the vessels of the sheep's neck directly in the defibrinating flask. In doing this due care should be taken to avoid the entrance of gross dirt into the flask. After defibrinating, decant the blood into a graduated cylinder which is either perfectly dry or has just been rinsed out with 0.9 per cent sodium chlorid solution. Note the amount of blood and divide it about equally between two or more 50-cc. centrifuge tubes. Add 0.9 per cent sodium chlorid solution till tubes are nearly full, and mix thoroughly. The glass centrifuge tubes in place within the metal tubes and trunnion rings in place should

be balanced against each other in pairs. Centrifuge till the corpuscles are completely precipitated. Pipette off supernatant fluid, add fresh 0.9 per cent sodium chlorid solution, mix thoroughly, centrifuge again, pipette off the supernatant fluid, add fresh sodium chlorid solution, mix, and again centrifuge. After the third centrifuging, pipette off the fluid above the blood cells, transfer the cells to the cylinder previously used for measuring the volume of the blood, which should be freshly rinsed with saline solution, and make up to the original volume with 0.9 per cent sodium chlorid solution. Keep blood corpuscles in the ice box at a temperature not above 6°. Cells may thus be preserved for at least 48 hours. The blood cells should not be used if the supernatant sodium chlorid solution shows a reddish coloration. If after the final washing a sterile 5 per cent dextrose solution be used to make the corpuscle suspension up to the original volume of the blood, the corpuscles should show no evidence of disintegration at the end of 10 days, if kept at a temperature of not more than 6°. Under these conditions they may be used in the test the same as fresh cells.

Hæmolytic amboceptor.—This substance is produced in the serum of a rabbit by injecting this animal with the washed blood corpuscles of a sheep prepared as above. The following methods of producing hæmolytic amboceptor may be used:

1. Inject rabbits intravenously with 1 cc. of fresh sheep cell suspension on the first, fourth, seventh, and tenth days of the process. Make test bleeding on the fifteenth day.

2. Inject rabbits intravenously with 1 cc., 1 cc., and 2 cc. washed sheep corpuscles on three successive days. Wait five days and repeat the injections. Make test bleeding five days after the last injection.

When the rabbit sera have been found to contain hæmolytic amboceptor of a suitable strength, the animals should be exsanguinated into large sterile centrifuge tubes or test tubes. When the blood has clotted, separate the clot from the sides of the tube by means of a platinum wire, or glass rod, and place the tubes in the 37° water bath for an hour, then place in the cold box over night. Separate the serum, add 0.3 per cent phenol, and preserve in the ice box at a temperature not higher than 6° C. Amboceptor serum should be stored two weeks before use.

Complement.—Bleed not less than five full-grown guinea pigs from the heart by means of a sterile syringe, previously rinsed with salt solution. With proper technique, from 5 to 10 cc. may be obtained without injury to the animal. Pigs may be kept for this purpose and bled once in two weeks. Place the blood drawn from each pig in a separate centrifuge tube, and allow to clot. Separate the clot from the side of the tubes with sterile needle or pipette and place in 37° water bath for one hour. Then place in cold box overnight, or, if serum has separated, pipette off the serum immediately. Centri-

fuge clear of red blood corpuscles and pool the sera in a sterile glass container. For each cubic centimeter of pooled sera add one-tenth cubic centimeter saturated sodium chlorid solution, mix well, and preserve in the cold box at a temperature not above 6° C. Guinea-pig serum so preserved will retain its complement undiminished in hæmolytic properties for two weeks. Just before use dilute with three volumes of distilled water, to restore the normal tonicity, and dilute as convenient with 0.9 per cent sodium chlorid solution.

Antigen.—A suspension of ether and alcohol soluble, acetone insoluble lipoids is used in the test. This is prepared as follows: A fresh beef heart is freed from fat and connective tissue, and the muscle ground in a meat grinder. Place 200 gm. of the ground meat in a bottle, add 2,000 cc. absolute alcohol, and stopper tightly. Extract for 10 days or 2 weeks at 37° C., thoroughly shaking the bottle three times each day. Filter through filter paper, place the filtrate in a filtering flask, and attach to an exhaustion apparatus. Agitate from time to time, heating the flask on a 37° C. water bath. When the contents of the flask have been evaporated to dryness, wash out the residue with about 100 cc. ether, evaporate the ether solution to about 30 cc., place in a conical cover and set aside in a cool place over night, decant clear supernatant fluid and add slowly to it ten times the volume of acetone to the filtrate, stir, and set aside, covered, in a cold place, for the precipitate to form. Collect precipitate, bottle with a little acetone, and preserve in the cold box. For use, dissolve 0.3 gm. of the solid in 1 cc. ether and 9 cc. of best obtainable grade of methyl alcohol. Preserve in the cold box at a temperature not above 6° C. Mix with 9 per cent sodium chlorid solution as indicated by the antigenic titration (see below) for use in the tests.

The patient's serum.—Blood may be obtained from the arm vein. To do this sterilize a syringe and its needle by boiling, and also sterilize the skin of the front of the arm at the bend of the elbow. Rinse the syringe with saline solution. After the patient has opened and closed the fist vigorously several times, to pump the blood into the veins, place a tourniquet above the elbow just tightly enough to cut off the venous circulation. Puncture a prominent vein with the needle; draw up 5 cc. blood. Loosen the tourniquet and discharge the blood into a 15-cc. centrifuge tube. The venous puncture ordinarily requires no dressing. The procedure is best carried out with the patient lying down. When the serum has clotted, separate the clot from the side of the tube, and set in a cool place, to allow the clot to contract. When the serum has separated, pipette off and transfer to another sterile glass container till tested. Keep in the ice box at a temperature not above 6° C. Sera should always be separated from the clot before shipment, as if this is not done more or less

hæmolysis will take place en route, rendering the serum unfit for testing.

Serum should be shipped in a sealed glass capsule, or small, sterile, rubber-stoppered bottle. The stopper should be firmly inserted and a strip of adhesive plaster pasted over the top to guard against its being dislodged. Blood serum in sealed glass capsules, or sterile vials, should be well wrapped in cotton and placed in a double mailing case, as specified by the postal regulations. (See reprint from Public Health Reports No. 438.)

Just before subjecting the sera to the Wassermann test they should be heated in a water bath at 54° to 56° C. for one-half hour, but spinal fluids do not require heating. The sera should be fresh—i. e., not more than 24 hours old. Tests may be performed with sera older than this, but in that case more negative results with the sera of syphilitics are to be anticipated than if the sera were fresh.

STANDARDIZATION OF REAGENTS, TITRATING.

The Wassermann reaction, properly performed, is a quantitative biochemical reaction, our knowledge of which is wholly empirical. To perform it properly, the various quantities of the elements entering into it should be measured as precisely as possible. Furthermore, it is evident that the substances used are extremely complex organic materials, and the greatest possible care should be taken to handle them properly and measure them accurately. A word may be said here about the use of the graduated pipettes, in measuring reagents diluted or undiluted.

To measure 0.1 cc. use a 1 cc. pipette graduated in tenths.

To measure 0.2 cc. use a 1 cc. pipette graduated in tenths.

To measure from 0.3 cc. to 1 cc. use a 1 cc. or 2 cc. pipette graduated in tenths.

To measure 1 cc., or multiples thereof, use a 5 cc. or 10 cc. pipette graduated in tenths.

In measuring sodium chlorid solution to make up the contents of tubes to unit volume, a 5 cc. pipette graduated in tenths may be used to measure quantities of 0.5 cc. and more.

The necessity for conscientious accuracy in the use of pipettes can not be over emphasized. In measuring reagents the direct measurements of minute amounts (less than 0.1 cc.) is to be avoided. Such amounts should be measured indirectly by diluting the reagent with 0.9 per cent sodium chlorid solution and measuring a portion of the resulting solution corresponding to the desired amount of the undiluted reagent. In making dilutions the conical test glasses are convenient, and thorough mixing may be secured by blowing air through the solutions. It is needless to remark, after measuring one reagent the pipette should be discarded and a fresh one used before measuring another reagent.

The substances first requiring attention are sheep's corpuscles, hæmolytic amboceptor (rabbit) serum, and complement (guinea pig) serum. The proper adjustment of these substances in relation to each other, known as the adjustment of the hæmolytic system, is an essential preliminary to the tests for syphilis.

Sheep's blood corpuscles.—The sheep cell suspension previously described is added to 0.9 per cent sodium chlorid solution in the proportion of 5 cc. of the suspension to 95 cc. of the saline solution. (For details of preparation see amboceptor titration and complement titration.) This suspension is taken as an arbitrary starting point in measuring the amount of hæmolytic amboceptor present in the rabbit serum, and the quantity of complement present in the guinea pig serum to determine the proper amounts of these substances to use in the tests.

It should always be remembered, however, that the red blood corpuscles of different sheep vary considerably in the ease with which they are hæmolyzed by complement and amboceptor; so that the substitution of the corpuscles of one sheep for those of another may cause an actual variation of as much as 100 per cent in the quantity of amboceptor or complement serum necessary to cause complete hæmolysis, and thus give the appearance of a sudden change in the potency of these reagents. This variability of the sheep corpuscles is taken into account and provided for, as is the variability of other reagents, by daily titration of complement just before setting up the tests for syphilis.

Titration of hæmolytic amboceptor.—The "unit of amboceptor" is the smallest amount of amboceptor serum which with 0.05 cc. fresh pooled guinea pig serum will completely hæmolyse 1.0 cc. of the 5 per cent suspension of sheep cells, when exposed to a temperature of 37° C. for one hour.

Select a specimen of antisheep rabbit serum at least two weeks old. Place 0.1 cc. in a conical glass and add precisely 9.9 cc., 0.9 per cent sodium chlorid solution (i. e., 1 in 100 dilution); mix thoroughly by blowing air through the solution; take 0.5 cc. of this and add 9.5 cc., 0.9 per cent sodium chlorid solution (i. e., 1 in 2,000 dilution); then each cubic centimeter of the final dilution will contain 0.005 cc. rabbit serum. Now place the following amounts of the final dilution in a row of test tubes:

- 0.1 cc. containing 0.0005 cc. amboceptor serum.
- 0.2 cc. containing 0.001 cc. amboceptor serum.
- 0.3 cc. containing 0.0015 cc. amboceptor serum.
- 0.4 cc. containing 0.002 cc. amboceptor serum.
- 0.5 cc. containing 0.0025 cc. amboceptor serum.
- 0.6 cc. containing 0.003 cc. amboceptor serum.

Add one tube, containing no amboceptor serum, to the row and make up the volume in all tubes to 2 cc. with 0.9 per cent sodium chlorid solution. Take 1 cc. of the pooled sera of at least 5 guinea pigs, which has been obtained within 5 hours and kept cold, the serum to be unsalted, and add 19 cc. 0.9 per cent sodium chlorid solution. Each cc. will therefore contain 0.05 cc. of the guinea pig serum. Add 1 cc. of the diluted guinea pig serum containing complement to all the test tubes. Next add to all the tubes a 5 per cent dilution in saline solution of the sheep cell suspension already described, making the total volume in each tube 4 cc., mix thoroughly by agitating the tubes, place in the 37° water bath for one hour, and keep at about 15° C. overnight. Note the tube containing the least amount of hæmolytic amboceptor serum which shows complete hæmolysis. By complete hæmolysis is meant a cloudless red solution with no undissolved corpuscles at the bottom of the tube. The amount of rabbit serum in this tube is the "unit of amboceptor." Reject, as unsuitable, those specimens of rabbit serum which fail to give complete hæmolysis in amounts of 0.002 cc. or less, with 0.05 cc. pooled complement sera. Amboceptor serum should be retitrated every six weeks. In titrating a new specimen of amboceptor serum set up a duplicate test, using a specimen of amboceptor serum of known titre.

Titration of complement.—This is to be done daily just before the syphilis tests are set up.

The "unit of complement" is the smallest amount of complement serum which, with two units of amboceptor, will completely hæmolyse 1 cc. of the 5 per cent sheep cell suspension when kept at a temperature of 37° C. for one-half hour.

Estimate, in round numbers, the number of cubic centimeters of red cell suspension needed for the day's work; for example, 100 cc. Multiply the unit of amboceptor by 200 and place that amount of amboceptor serum in a 100 cc. glass-stoppered graduated cylinder. Add about 50 cc. of 0.9 per cent sodium chlorid solution, taking care to wash down the serum adhering to the sides of the cylinder; next add 5 cc. of the undiluted sheep corpuscles which have been made up to the volume of the defibrinated blood. Then make up to 100 cc. with 0.9 per cent sodium chlorid solution. Invert 50 times to mix thoroughly. Set aside for 15 minutes.

Dilute some of the salted complement serum as follows:

Serum.....	0.3 cc.
Water.....	0.9 cc.
0.9 per cent solution sodium chlorid.....	1.8 cc.
Total.....	3.0 cc.

Set up seven test tubes, adding the following amounts of the above solution to them: 0.6 cc., 0.5 cc., 0.4 cc., 0.3 cc., 0.2 cc., 0.1 cc., 0 cc., using a 1 cc. pipette. Make up the volume in each tube

with saline solution to 3 cc. Use a 1 cc. pipette to make up tenths and a 5 or 10 cc. pipette to add the necessary 2 cc. Add to each tube 1 cc. of the amboceptor-corpusele suspension, incubate in a water bath at 37° C. for one-half hour, and read the unit at once by noting the tube containing the least amount of guinea-pig serum in which the cells are completely dissolved.

Titration of antigen.—In determining the suitability and amount of a specimen of the acetone-insoluble lipoids for use as antigen, the following properties of this substance especially concern us.

1. The property of the antigen of combining with complement in the presence of syphilitic sera.

2. The property of the antigen, in much larger amounts, of combining with complement in the presence of normal sera.

3. The property of the antigen of hæmolysing the red blood cells.

The first two properties are present to a degree in nearly all antigens, while the third occurs only occasionally and is reason for the rejection of the particular specimen in question.

The quantitative estimation of the first is called the antigenic titration; that of the second the anticomplementary titration. These processes may be combined as follows: Set up two parallel rows of 12 tubes and add to them, in pairs, graded amounts of methyl alcohol solution of the antigen to be tested, leaving one pair without antigen for control—viz, 0.2, 0.16, 0.14, 0.1, 0.08, 0.06, 0.04, 0.02, 0.01, 0.006, 0.004, 0.000 cc. In adding the antigen solution, dilute 1 part in 10 with 0.9 per cent sodium chlorid solution. Make up to 2 cc. with 0.9 per cent sodium chlorid solution. To each tube of one row add 0.2 cc. of known positive syphilitic serum, and to each tube of the other 0.2 cc. of known negative serum. Add to each tube two units of complement, just previously determined as already described, contained in 1 cc. of 0.9 per cent sodium chlorid solution. This may conveniently be done as follows:

Total number tubes=24 (allowing for fluid lost in measurement, 25 cc. complement solution will be needed).

Unit of complement= $0.03 \times 2 = 0.06$.

Then $0.06 \times 25 = 1.50$.

Take salted complement serum.....	1.50 cc.
Water.....	4.5 cc. (3×1.5)

	6.0 cc.
0.9 per cent sodium chlorid solution.....	19.0 cc. ($25 - 6 = 19$)
Total.....	25.0 cc.

Then each cubic centimeter of the solution contains two units of complement.

Mix contents of tubes thoroughly, place in 37° water bath for one hour. Remove and add to each tube 1 cc. of amboceptor sheep

corpuscles, used in determining the unit of complement. Incubate one-half hour and set in a cold place about 15° C. over night.

Note the least amount of antigen completely preventing hæmolysis in the tubes containing positive syphilitic serum. Note the largest amount of antigen not interfering with complete hæmolysis in the negative serum tubes. The best antigen gives a wide margin between these readings.

Now select the unit of antigen for use in the syphilis tests between these values. It should be several times the least amount of antigen completely preventing hæmolysis in the tubes containing positive sera; as other positive sera may be encountered, weaker in the syphilitic reacting substance than the specimen used. On the other hand, the unit should not be more than one-half the largest amount of antigen not interfering with complete hæmolysis in the tubes containing negative serum, as other negative sera may be more anti-complementary than the one used in the test, and false positive reactions might result from the use of too much antigen.

Example of selection of antigenic unit:

With negative serum.		With positive serum.	
Amount antigen.	Hæmolysis.	Amount antigen.	Hæmolysis.
0.2 cc.....	None.....	0.02 cc.....	None.
0.16 cc.....	Partial.....	0.01 cc.....	Do.
0.14 cc.....	do.....	0.006 cc.....	Do.
0.1 cc.....	Complete..	0.004 cc.....	Partial.
0.....	do.....	0.....	Complete.

Unit selected = .02 cc. (methyl alcohol solution).

When the unit has been selected, place 2 units diluted to 3 cc. in a test tube and add 1 cc. of the cell suspension. Incubate 1 hour at 37° C. Should any hæmolysis occur, the specimen of antigen should be rejected as being hæmolytic.

The Complement-Fixation Test for Syphilis.

PERFORMING THE TESTS.

After the units of amboceptor and antigen have been determined, the unit of complement titrated, and the patient's sera heated to 54°–56° C. for one half hour on the day of the test, the test may be set up as follows (see diagram): Set up a pair of tubes for each new serum to be tested and for the positive and negative control sera which are to be retested. Add one tube for the antigen control, one for the hæmolytic system control, and one for the sheep corpuscle control. The paired tubes are conveniently placed in two rows, front and back. To each of the front row tubes add one unit of antigen contained in 1 cc. of 0.9 per cent sodium chlorid solution, and

to the antigen control tube add 2 units contained in 2 cc. To dilute the methyl alcohol solution of antigen for this purpose multiply the unit by the number of sera to be examined plus five. Place this amount of the methyl alcohol antigen solution in a conical glass and add sufficient of the diluent to make the total volume equal to the number of specimens to be examined plus five.

Eg. Antigen unit=0.03.

Number of sera including positive and negative controls plus 5=40.

$0.03 \times 40 = 1.20$.

Use 1.2 cc. antigen solution and add to it 40 cc. minus 1.2 cc., or 38.8 cc. 0.9 per cent sodium chlorid solution.

Then, each cubic centimeter of the antigen suspension as made up will contain 0.03 c. c. of the methyl alcohol solution.

Now to each pair of tubes, corresponding to the sera which are to be tested, add 0.2 cc. of the sample of serum to the front tube and 0.4 cc. to the back tube. Make the volume of all tubes equal 2 cc. with 0.9 per cent sodium chlorid solution. To do this add 2 cc. of it to the hæmolytic control tube, 3 cc. to the corpuscle control tube, 1.6 cc. to the tubes in the back row containing sera and 0.8 cc. to the tubes in the front row.

Add to all tubes, save the corpuscle control tube, 2 units of complement contained in 1 cc. 0.9 per cent sodium chlorid solution (see antigen titration). Add 1 cc. of this mixture to each tube, except the corpuscle control tube. The volume contained in each tube will now be 3 cc. Mix well, by individually agitating each tube. Incubate in a water bath at 37° C. for one hour. Add to each tube 1 cc. of the amboceptor-sheep corpuscle suspension. Mix well and incubate as above for one-half hour. Place in a cool place at about 15° C. overnight.

READING AND RECORDING RESULTS.

The morning after performing the tests, first examine the control tubes. All the red cells in the antigen and hæmolytic system control tubes should be hæmolyzed, but there should be no trace of hæmolysis in the corpuscle control tube. Next examine the tubes containing known positive and negative sera. The rear tubes of both these pairs should show complete hæmolysis, as should the front tube of the pair containing negative serum. The front tube of the positive pair should, however, show little or no hæmolysis, indicating complete, or nearly complete, fixation of complement. In like manner examine all the tubes containing serum to be tested. Inspect the back tubes first; if complete hæmolysis is not present it may be concluded that the serum was anticomplementary, i. e., was capable of fixing complement in the absence of antigen, and that any fixation in the front tube is of doubtful significance. In some sera, in which hæmolysis is complete in the back tube, various degrees of

fixation, i. e., weakening of hæmolysis, will be noted in the corresponding front tubes. If the appearances of the controls previously mentioned are satisfactory, it is permissible to conclude that these sera are positive.

Record the results of the tests, as indicated by the amounts of fixation in these tubes as compared with a specimen showing complete fixation (no hæmolysis) and one showing no fixation (complete hæmolysis) reporting the results as follows:

70 to 100 per cent fixation = "strongly positive."

40 to 70 per cent fixation = "positive."

20 to 40 per cent fixation = "weakly positive."

0 to 20 per cent fixation = "negative."

In actual practice, with the technique described, the experience has been that nearly all sera give either "strongly positive" or "positive" reactions, or are frankly negative.

Diagram of complement fixation test for syphilis.

The squares represent the arrangement of tubes as seen by one looking down on the rack. Inside the squares appear the reagents in the order in which they are introduced together with the amounts. The preliminary phase of the incubation is carried out at 37° C. for 1 hour. Add amboceptor-cell suspension, incubate at 37° for one-half hour, and keep at about 15° C. overnight.

BACK ROW.

Known positive serum.	Known negative serum.	Unknown serum ¹ to be tested for syphilis.	Antigen control.	Hæmolytic system control.	Sheep corpuscle control.
Serum .4 cc. NaCl sol. 1.6 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	Serum .4 cc. NaCl solution 1.6 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	Serum .4 cc. NaCl solution 1.6 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	Antigen suspension 2 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	NaCl solution 2 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	NaCl solution 3 cc. Amboceptor-corpuscle suspension 1 cc.

FRONT ROW.

Antigen suspension 1 cc. Serum .2 cc. NaCl solution .8 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	Antigen suspension 1 cc. Serum .2 cc. NaCl solution .8 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.	Antigen suspension 1 cc. Serum .2 cc. NaCl solution .8 cc. Complement dilution 1 cc. Amboceptor-corpuscle suspension 1 cc.			
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¹ But one tube shown in diagram.

STERILIZATION OF THE MENTALLY DEFECTIVE AND INSANE.

A Michigan law providing for the sterilization of mental defectives or insane persons maintained wholly or in part by public expense in public institutions has been declared unconstitutional by the Michigan

Supreme Court¹ because it arbitrarily selected for sterilization those confined in institutions. The opinion shows that out of what might be termed a natural class of defective and incompetent persons the legislature selected only those already under public restraint, leaving immune from its operation all others of like kind to whom the reason for the legislative remedy is normally and equally, at least, applicable. For this reason the law is said to come under the constitutional prohibition against class legislation. The court did not pass upon the constitutionality of the principle of sterilization of defective and insane persons, as the point just considered was the only one raised in the proceeding.

¹ Haynes, Superintendent of Michigan Home and Training School, *v. Lapeer*, Circuit Judge, decided by Michigan Supreme Court Mar. 28, 1918, quoted 166 *Northwestern Reporter* 938. The law found unconstitutional is Michigan Public Acts, 1913, No. 34.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED AUG. 17.

CAMP BEAUREGARD ZONE, LA.

	Cases.
Gonorrhea:	
Alexandria.....	2
Typhoid fever:	
Ball.....	1
Echo.....	1
Leecompe.....	2
Willow Glenn.....	1
Woodworth.....	1
Whooping cough:	
Alexandria.....	2
Pineville.....	2

CAMP BOWIE ZONE, TEX.

Fort Worth:	
Dysentery.....	1
Gonorrhea.....	218
Malaria.....	1
Syphilis.....	118
Typhoid fever.....	10

BREMERTON ZONE, WASH.

Chicken pox.....	1
Gonorrhea.....	2
Measles.....	2
Mumps.....	2
Whooping cough.....	1

CAMP DIX ZONE, N. J.

Whooping cough:	
Pemberton Boro.....	2

CAMP DODGE ZONE, IOWA.

Des Moines:	
Diphtheria.....	3
Gonorrhea.....	14
Scarlet fever.....	4
Smallpox.....	1
Syphilis.....	4
Tuberculosis.....	1
Typhoid fever.....	1
Grimes:	
Typhoid fever.....	1

CAMP DONIPHAN ZONE, OKLA.

Lawton:	
Gonorrhea.....	4
Whooping cough.....	4

CAMP EBERTS ZONE, ARK.

Dysentery:	
Scotts, route 2.....	1
Gonorrhea:	
England, route 2.....	1
Scotts.....	2
Malaria:	
Austin.....	2
Austin, route 2.....	4
Carlisle.....	11
Carlisle, route 1.....	1
Carlisle, route 2.....	2
Carlisle, route 3.....	1
England, route 1.....	2
England, route 2.....	2
Hazen, route 1.....	1
Humnoke.....	1
Jacksonville, route 1.....	1
Keo.....	15
Kerr, route 1.....	3
Lonoke.....	2
Lonoke, route 1.....	1
Lonoke, route 4.....	9
Scotts, route 1.....	4
Toltec.....	1
Pellagra:	
Scotts, route 2.....	2
Septic sore throat:	
Scotts, route 1.....	1
Ward.....	3
Syphilis:	
Scotts.....	4
Tuberculosis:	
Kerr, route 1.....	4
CAMP FUNSTON ZONE, KANS.	
Manhattan:	
Paratyphoid fever.....	1
Scarlet fever.....	1
Typhoid fever.....	1

CAMP GORDON ZONE, GA.

Atlanta:	Cases.
Chicken pox.....	4
Gonorrhea.....	22
Malaria.....	2
Measles.....	1
Mumps.....	6
Pneumonia.....	1
Scarlet fever.....	3
Syphilis.....	18
Tuberculosis.....	7
Typhoid fever.....	12
Whooping cough.....	3
East Point:	
Smallpox.....	1
Typhoid fever.....	1

CAMP GREENE ZONE, N. C.

Charlotte Township:	
Chancroid.....	3
Gonorrhea.....	15
Scarlet fever.....	8
Syphilis.....	10
Tuberculosis.....	1
Typhoid fever.....	15
Whooping cough.....	9

GULFPORT HEALTH DISTRICT, MISS.

Dysentery.....	2
Gonorrhea.....	5
Hookworm disease.....	3
Malaria.....	21
Measles.....	2
Mumps.....	4
Pellagra.....	1
Syphilis.....	1
Tuberculosis.....	1
Typhoid fever.....	12

CAMP HANCOCK ZONE, GA.

Augusta:	
Chicken pox.....	1
Malaria.....	6
Pellagra.....	2
Tuberculosis.....	9
Typhoid fever.....	1
Whooping cough.....	6

CAMP JACKSON ZONE, S. C.

Columbia:	
Typhoid fever.....	3
Whooping cough.....	5

CAMP JOSEPH E. JOHNSTON ZONE, FLA.

Chicken pox:	
Panama.....	1
Diphtheria:	
Jacksonville.....	1
Dysentery:	
Jacksonville.....	2
Panama.....	3
Gonorrhea:	
Jacksonville.....	47
Malaria:	
Jacksonville.....	1
Measles:	
Panama.....	1

CAMP JOSEPH E. JOHNSTON ZONE, FLA.—continued.

Mumps:	Cases.
Panama.....	1
Syphilis:	
Jacksonville.....	39
Tuberculosis:	
Jacksonville.....	3
Murray Hill.....	1
Typhoid fever:	
Jacksonville.....	6
Whooping cough:	
Jacksonville.....	1
Lackawanna.....	2

FORT LEAVENWORTH ZONE, KANS.

Leavenworth:	
Gonorrhea.....	11
Syphilis.....	1
Tuberculosis.....	4
Leavenworth County:	
Diphtheria.....	2
Smallpox.....	1

CAMP LEE ZONE, VA.

Hopewell:	
Gonorrhea.....	5
Mumps.....	1
Syphilis.....	3
Whooping cough.....	11
Petersburg:	
Gonorrhea.....	47
Malaria.....	1
Scarlet fever.....	2
Syphilis.....	11
Typhoid fever.....	3

CAMP LEWIS ZONE, WASH.

Tuberculosis:	
Nisqually.....	1

CAMP LOGAN ZONE, TEX.

Chancroid:	
United States Government clinic.....	1
Diphtheria:	
Houston.....	1
Gonorrhea:	
Camp Logan.....	2
Harrisburg.....	1
Houston.....	17
Humble.....	1
Park Place.....	1
United States Government clinic.....	41
Syphilis:	
Houston.....	4
United States Government clinic.....	10
Tuberculosis:	
Houston.....	14
Kaufman.....	1
Westfield.....	5
Typhoid fever:	
Houston.....	3

CAMP MACARTHUR ZONE, TEX.

Waco:	
Gonorrhea.....	2
Malaria.....	1
Tuberculosis.....	1
Typhoid fever.....	4

CAMP M'CLELLAN ZONE, ALA.

Anniston:	Cases.
Dysentery, amebic.....	1
Gonorrhea.....	9
Scarlet fever.....	1
Syphilis.....	4
Typhoid fever.....	4
Whooping cough.....	8
Jacksonville:	
Typhoid fever.....	1
Oxford:	
Smallpox.....	1

PORT OGLETHORPE ZONE, GA. AND TENN.

Cerebrospinal meningitis:	
Chattanooga.....	1
Gonorrhea:	
Chattanooga.....	21
East Chattanooga.....	1
Eastlake.....	1
Missionary Ridge.....	1
North Chattanooga.....	1
Pneumonia:	
Eastlake.....	1
Scarlet fever:	
Chattanooga.....	1
Syphilis:	
Chattanooga.....	7
Typhoid fever:	
Chattanooga.....	1
East Chattanooga.....	2

CAMP PIKE ZONE, ARK.

Chancroid:	
Little Rock.....	1
Gonorrhea:	
Little Rock.....	16
North Little Rock.....	2
Picon.....	1
Scotts.....	2
Malaria:	
Little Rock.....	28
North Little Rock.....	3
Picon.....	2
Pellagra:	
Little Rock.....	2
Syphilis:	
Little Rock.....	20
Tuberculosis:	
Little Rock.....	3
Typhoid fever:	
Little Rock.....	3

PORTSMOUTH AND NORFOLK COUNTY HEALTH DISTRICT, VA.

Chancroid:	
Norfolk.....	2
Gonorrhea:	
Norfolk.....	58
Portsmouth.....	4
Quartermaster Terminal.....	2
Malaria:	
Norfolk County.....	4
Portsmouth.....	2
Measles:	
Ocean View.....	1

PORTSMOUTH AND NORFOLK COUNTY HEALTH DISTRICT, VA.—continued.

Mumps:	Cases.
Portsmouth.....	1
Syphilis:	
Norfolk.....	3
Quartermaster Terminal.....	4
Tuberculosis:	
Norfolk.....	4
Portsmouth.....	5
Typhoid fever:	
Deep Creek.....	1
Norfolk.....	2
Pinners Point.....	1
Portsmouth.....	2
Quartermaster Terminal.....	1
Whooping cough:	
Brighton.....	1
Portsmouth.....	1

PORTSMOUTH-KITTERY SANITARY DISTRICT, N. H. AND ME.

Measles:	
Elliot.....	2
Greenland.....	1
Portsmouth.....	1
Scarlet fever:	
Portsmouth.....	1
Syphilis:	
Portsmouth.....	1
Tuberculosis:	
Portsmouth.....	1

CAMP SHELBY ZONE, MISS.

Chancroid:	
Hattiesburg.....	2
Gonorrhea:	
Hattiesburg.....	10
Hookworm disease:	
McLaurin.....	5
Malaria:	
Hattiesburg.....	2
Near Hattiesburg.....	2
Petal.....	1
Measles:	
Hattiesburg.....	1
Pneumonia:	
Hattiesburg.....	1
Tuberculosis:	
Hattiesburg.....	1
McLaurin.....	1

CAMP SHERIDAN ZONE, ALA.

Montgomery:	
Diphtheria.....	1
Gonorrhea.....	2
Malaria.....	2
Scarlet fever.....	1
Syphilis.....	1
Typhoid fever.....	8
Montgomery County:	
Typhoid fever.....	1
United States Government clinic:	
Chancroid.....	6
Gonorrhea.....	43
Syphilis.....	16

CAMP SHERMAN ZONE, OHIO.

	Cases.
Chancroid:	
United States Government clinic	1
Gonorrhea:	
United States Government clinic	13
Tuberculosis, pulmonary:	
Chillicothe	3
Typhoid fever:	
Liberty Township	3

CAMP ZACHARY TAYLOR ZONE, KY.

Cerebrospinal meningitis:	
Louisville	1
Chancroid:	
United States Government clinic	2
Continued fever:	
Louisville	1
Diphtheria:	
Louisville	1
Dysentery:	
Louisville	1
Gonorrhea:	
Jefferson County	1
United States Government clinic	25
Intermittent fever:	
Louisville	1
Rabies, in animals: .	
Louisville	3
Remittent fever:	
Louisville	1
Smallpox:	
Louisville	2
Syphilis:	
Louisville	2
United States Government clinic	17
Tuberculosis, pulmonary:	
Louisville	18
Typhoid fever:	
Jefferson County	5
Louisville	8
Whooping cough:	
Jefferson County	3
New Albany, Ind.	3

TIDEWATER HEALTH DISTRICT, VA.

Chancroid:	
Newport News	2
Chicken pox:	
Newport News	1
Diphtheria:	
Newport News	1
Gonorrhea:	
Newport News	16
Measles:	
Phoebe	1
Mumps:	
Newport News	1
Syphilis:	
Newport News	8

TIDEWATER HEALTH DISTRICT, VA.—continued.

Tuberculosis:	Cases.
Hampton	1
Typhoid fever:	
Leehall	1
Newport News	8
Phoebe	1
Whooping cough:	
Newport News	1

CAMP TRAVIS ZONE, TEX.

San Antonio:	
Cerebrospinal meningitis	1
Chancroid	2
Diphtheria	5
Gonorrhea	29
Malaria	1
Scarlet fever	1
Syphilis	18
Tuberculosis	5
Typhoid fever	6

CAMP UPTON ZONE, N. Y.

Whooping cough:	
Brook Haven	2

VANCOUVER ZONE, WASH.

Gonorrhea	1
Scarlet fever	3
Whooping cough	1

CAMP WADSWORTH ZONE, S. C.

Gonorrhea:	
Spartanburg	2
White Stone	1
Malaria:	
Glenn Springs	1
Mumps:	
Spartanburg	1
Typhoid fever:	
Fairforest	1
Moore	1
Spartanburg	1

CAMP WHEELER ZONE, GA.

Bibb County:	
Diphtheria	1
Typhoid fever	1
Macon:	
Diphtheria	1
Gonorrhea	5
Malaria	2
Syphilis	4
Tuberculosis	3
Typhoid fever	4
Whooping cough	10
United States Government clinic:	
Gonorrhea	14
Syphilis	1

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES.¹

The following data are taken from telegraphic reports received in the office of the Surgeon General, United States Army, for the week ended August 9, 1918:

Annual admission rate per 1,000 (disease only):

All troops.....	1,062.3
Divisional camps.....	1,281.7
Cantonments.....	1,165.3
Departmental and other troops.....	827.2

Noneffective rate per 1,000 on day of report:

All troops.....	36.89
Divisional camps.....	42.06

Noneffective rate per 1,000 on day of report—Continued.

Cantonments.....	39.81
Departmental and other troops.....	30.73
Annual death rate per 1,000 (disease only):	
All troops.....	3.18
Divisional camps.....	2.72
Cantonments.....	3.51
Departmental and other troops.....	2.98

New cases of special diseases reported during the week ended Aug. 9, 1918.

Camp.	Pneumonia.	Dysentery.	Malaria.	Venereal diseases.		Measles.	Meningitis.	Scarlet fever.	Deaths.	Annual admission rate per 1,000 (disease only).	Noneffective per 1,000 on day of report.
				Total.	New infections.						
Beauregard.....	4	2	18	215	6	42			1	702.3	28.63
Bowie.....				8	8	3				1,280.6	46.17
Cody.....	11			66		4		1	5	422.7	17.87
Freemont.....	3			13	9	1	1		3	658.0	35.20
Greene.....				51		1				1,094.1	49.20
Greenleaf.....		1	5	26		19		1	1	818.0	42.33
Hancock.....	3		11	107		1			5	952.4	34.29
Kearny.....	1			4		1			1	750.7	111.90
Logan.....			1	59						3,171.8	85.43
MacArthur.....	2			26	8	3	1			1,461.1	72.01
McClellan.....	1		1	9	5	1			1	902.9	87.95
Sevier.....	5		3	23		6				1,908.5	82.89
Shelby.....	8	1	20	75		11			2	1,450.5	49.19
Sheridan.....	2		3	241	15	22			1	2,101.5	53.17
Wadsworth.....				1,460	3				2	3,467.8	35.88
Wheeler.....	6			34	1				1	624.7	25.99
Custer.....	1			526		6			1	1,520.1	18.98
Devens.....			6	57		9			2	624.1	33.57
Dix.....	6	1	7	168	4	7			4	1,302.8	34.37
Dodge.....	12			92		58		2	7	935.3	42.21
Funston.....	15			335		13			2	800.9	18.83
Gordon.....	30		3	605		65	1		7	2,815.8	74.32
Grant.....	18		3	32		9			4	363.5	11.89
Jackson.....	9		2	257	2	53		1	2	1,291.9	54.72
J. E. Johnston.....	1		7	54	39	28				1,317.6	32.50
Las Casas.....	9			18	18	3			2	1,060.9	38.62
Lee.....	3	1		80	3	41			4	636.9	49.40
Lewis.....	8		1	177	5	8				1,347.3	43.83
Meade.....	3	1		24	4	6			5	828.2	27.33
Pike.....	20		18	64	4	147			10	1,247.5	54.61
Sherman.....	6			72	4	7			2	1,385.4	51.38
Taylor.....	13			70	7	74			1	913.3	35.85
Travis.....	22	9	6	117	8	1			4	1,945.4	53.58
Upton.....	2		8	342	2	26		1	2	873.3	37.38
Northeastern Department.....	1			20	7	1				663.77	25.14
Eastern Department.....	4	1	4	290	49	29			4	874.75	20.82
Southeastern Department.....	2		5	73	25	7				1,185.9	55.88
Central Department.....	2	1	1	53	24	8			4	847.5	31.43
Southern Department.....	9	2	3	98	45	3		1	2	852.37	32.06
Western Department.....	2			30	6	20			2	540.5	21.13
Aviation camps.....	10	1	14	144		8	1	4	12	920.83	28.6
Ports of embarkation:											
Hoboken.....			6	225	18	15	4	1	2	977.1	58.26
Newport News.....		6	4	158	10	5			4	1,488.75	73.22
Alcatraz.....										297.1	11.4
Leavenworth.....	3			2						1,196.4	32.68
Columbus Barracks.....				6						289.8	16.6
Jefferson Barracks.....			4	75		4				1,658.08	105.68
Logan, Fort.....				29						1,108.1	48.70

¹ Including Porto Rico.

New cases of special diseases reported during the week ended Aug. 9, 1918—Continued.

Camp.	Pneumonia.	Dysentery.	Malaria.	Venereal diseases.		Measles.	Meningitis.	Scarlet fever.	Deaths.	Annual admission rate per 1,000 (disease only).	Non-effective per 1,000 on day of report.
				Total.	New infections.						
McDowell, Fort.....	2			12	1					2,559.67	128.09
Siocum, Fort.....				58	1	1				1,614.61	43.83
Thomas, Fort.....			2	4						1,316.12	30.27
Arsenals.....				12	9	10				1,014.6	17.81
West Point.....										1,465.55	15.17
Miscellaneous small stations.....			1	1						458.7	8.25
General hospitals.....									15		
Total.....	260	27	162	6,797	350	780	8	12	128		

Annual rate per 1,000 for special diseases.

Disease.	All troops in United States. ¹	Departmental and other troops. ¹	Divisional camps. ¹	Cantonments. ¹	Expeditionary forces. ²
Pneumonia.....	8.45	3.06	8.34	12.58	5.58
Dysentery.....	.86	.96	.72	.84	2.72
Malaria.....	5.20	3.85	11.24	3.93	.94
Venereal.....	218.3	113.1	438.5	217.2	21.9
Paratyphoid.....					.04
Typhoid.....	.48	.35	1.45	.20	1.78
Measles.....	25.0	9.11	20.8	39.4	5.04
Meningitis.....	.25	.43	.36	.07	.80
Scarlet fever.....	.38	.52	.36	.23	.98

¹ Week ended Aug. 9, 1918.² Week ended Aug. 1, 1918.**CURRENT STATE SUMMARIES.****Telegraphic Reports for Week Ended August 17, 1918.**

Alabama.—Typhoid fever: By counties—Colbert 4, Henry 1, Houston 2, Jefferson 26, Lamar 1, Lauderdale 5, Limestone 1, Marengo 4, Mobile 1, Monroe 3, Walker 2. Malaria: By counties—Bibb 5, Colbert 3, Henry 4, Houston, 100, Jefferson 3, Lauderdale 2, Mobile 1, Perry 3, Shelby 4. Smallpox: By counties—Jefferson 7, Marengo 8, Monroe 1, Perry 1, Shelby 2. Diphtheria: By counties—Jefferson 6, Mobile 2, Randolph 3.

Connecticut.—Poliomyelitis: New Britain 2, West Hartford 1.

Illinois.—Diphtheria: Seventy, of which in Chicago 42. Scarlet fever: Twenty-five, of which in Chicago 11. Smallpox: Eight. Typhoid fever: Seventy, of which in Moline 14, Wheaton 14, Jacksonville 6. Meningitis: Seven, of which in Chicago 6. Poliomyelitis: Chicago 8, 1 each Glencoe, Newtrier Township (Cook County), Hinsdale, Naperville, Zion City, Limestone Township (Kankakee County), East St. Louis, 2 each Roberts, Stockton, 3 each St. Charles, Kankakee Township (Kankakee County).

Indiana.—Diphtheria: Present Michigan City, Monticello, Muncie, Warsaw, and Hillsdale (Vermilion County). Smallpox: Rushville, Greenfield, Valentine, Lagrange County, Jackson County. Rabies (dogs): Connersville, Jeffersonville, Greensburg.

Iowa.—Diphtheria: Davenport 2, Des Moines 3. Gonorrhea: Clinton 1, Davenport 1, Des Moines 15, Fort Dodge 5, Muscatine 3, Norwalk 1, Waterloo 39. Mumps: Davenport 1. Poliomyelitis: Cedar Rapids 1, Dubuque 1, Monmouth 1. Scarlet fever: Cedar Rapids 2, Monmouth 1, Des Moines 4. Smallpox: Des Moines 2, Dubuque 1, Knoxville 1, Lansing 2. Syphilis: Des Moines 4, Eldon 1, Masonville 2, Waterloo 16. Tuberculosis: Des Moines 1. Typhoid fever: Des Moines 1, Grimes 1. Whooping cough: Davenport 1. In rural districts of following counties. Diphtheria: Lee 1, Story 1, Webster 1. Gonorrhea: Kossuth 1. Poliomyelitis: Clayton 1, Dubuque 1, Jackson 1. Scarlet fever: Adams 1, Franklin 1, O'Brien 1, Sac 2, Warren 1. Smallpox: Boone 2, Marion 8. Whooping cough: Fayette 2.

Kansas.—Meningitis: By cities—Bonner Springs 1, Eldorado 1, Marysville 1, Moline 1, Pittsburg 1. Poliomyelitis: By cities—Newton 1, St. Paul 1. Smallpox: State total 26. Typhoid fever: State total 97.

Reported by mail for preceding week (ended Aug. 10):

Cancer.....	17	Pneumonia.....	1
Cerebrospinal meningitis.....	2	Poliomyelitis.....	1
Chicken pox.....	1	Scarlet fever.....	10
Diphtheria.....	10	Smallpox.....	23
German measles.....	3	Syphilis.....	19
Gonococcus infection.....	57	Tetanus.....	1
Malaria.....	3	Trachoma.....	2
Measles.....	9	Tuberculosis.....	31
Mumps.....	12	Typhoid fever.....	80
Pellagra.....	2	Whooping cough.....	27

Louisiana.—Typhoid fever 66, poliomyelitis 1, smallpox 8, diphtheria 48.

Minnesota.—Smallpox (new feci): Cottonwood County, Lakeside Township 1, Norman County, Halsted Township 1. One cerebrospinal meningitis report since August 12.

Nebraska.—Poliomyelitis Chappell (Deuel County).

New York.—Smallpox: 16, of which in Cheektowaga 13. Typhoid fever: 66, of which 19 delayed reports from Lockport. Poliomyelitis: 3, scattered. Report for State outside of New York City.

Virginia.—One case poliomyelitis, Accomac County.

Washington.—Scarlet fever: Vancouver 3, Seattle 7, Tacoma 15. Smallpox: Raymond 14. Typhoid fever: Walla Walla 15, Yakima 11.

CEREBROSPINAL MENINGITIS.

Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.

	Cases.		Cases.
Fort Oglethorpe zone, Ga. and Tenn.....	1	Camp Travis zone, Tex.....	1
Camp Zachary Taylor zone, Ky.....	1		

State Reports for July, 1918.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	2	Massachusetts—Continued.	
Maryland:		Hampden County—	2
Baltimore.....	13	Springfield.....	1
Anne Arundel County.....	2	Middlesex County.....	1
Baltimore County—		Belmont (town).....	1
Bay View Hospital.....	1	Cambridge.....	2
Carroll County—		Somerville.....	1
Mount Airy.....	1	Waltham.....	
Total.....	17	Norfolk County—	1
Massachusetts:		Norwood (town).....	
Bristol County—		Suffolk County—	5
Fall River.....	1	Boston.....	2
Essex County—		Chelsea.....	1
Andover (town).....	1	Winthrop (town).....	
Haverhill.....	1	Worcester County—	
Lawrence.....	2	Fitchburg.....	1
Franklin County—		Milford (town).....	1
Greenfield (town).....	1	Total.....	25

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1		Lincoln, Nebr.....	1	1
Atlanta, Ga.....	1		Los Angeles, Cal.....	1	1
Baltimore, Md.....	4	1	Marinette, Wis.....	1	1
Birmingham, Ala.....	1		Milwaukee, Wis.....	1	1
Boston, Mass.....	1	2	Newark, N. J.....	5	3
Bridgeport, Conn.....	1	1	New York, N. Y.....	9	3
Buffalo, N. Y.....	1	1	Orange, N. J.....	1	2
Charleston, W. Va.....		1	Philadelphia, Pa.....	1	
Chicago, Ill.....	3		Pittston, Pa.....	1	
Cincinnati, Ohio.....	1	1	St. Louis, Mo.....	1	2
Cleveland, Ohio.....	1		San Francisco, Cal.....	1	
Dayton, Ohio.....	1	2	Toledo, Ohio.....	1	1
Detroit, Mich.....	1		Wheeling, W. Va.....	1	
East Orange, N. J.....	1	1			

CHANCROID.

Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.

	Cases.		Cases
Camp Greene zone, N. C.....	3	Camp Sheridan zone, Ala.....	6
Camp Logan zone, Tex.....	1	Camp Sherman zone, Ohio.....	1
Camp Pike zone, Ark.....	1	Camp Zachary Taylor zone, Ky.....	2
Portsmouth and Norfolk County health district, Va.....	2	Tidewater health district, Va.....	2
Camp Shelby zone, Miss.....	2	Camp Travis zone, Tex.....	2

DIPHTHERIA.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

	Cases.		Cases.
Camp Dodge zone, Iowa.....	3	Camp Zachary Taylor zone, Ky.....	1
Camp Joseph E. Johnston zone, Fla.....	1	Tidewater health district, Va.....	1
Fort Leavenworth zone, Kans.....	2	Camp Travis zone, Tex.....	5
Camp Logan zone, Tex.....	1	Camp Wheeler zone, Ga.....	2
Camp Sheridan zone, Ala.....	1		

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1416.

ERYSIPELAS.**City Reports for Week Ended Aug. 3, 1918.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	1		Lowell, Mass.....		1
Buffalo, N. Y.....	1	1	Minneapolis, Minn.....	2	
Cambridge, Mass.....		1	Montclair, N. J.....	1	
Chelsea, Mass.....		1	Newark, N. J.....	4	
Chicago, Ill.....	6		New York, N. Y.....		3
Cleveland, Ohio.....	2		Oakland, Cal.....	1	
Detroit, Mich.....	1		Omaha, Nebr.....		1
Greenville, Tex.....	3		Philadelphia, Pa.....	3	
Kansas City, Mo.....	2		St. Louis, Mo.....	3	
Lackawanna, N. Y.....	1		San Diego, Cal.....	2	
Los Angeles, Ca.....	1		San Francisco, Cal.....	5	

GONORRHEA.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

	Cases.		Cases.
Camp Beauregard zone, La.....	2	Camp McClellan zone, Ala.....	9
Camp Bowie zone, Tex.....	218	Fort Oglethorpe zone, Ga. and Tenn.....	25
Bremerton zone, Wash.....	2	Camp Pike zone, Ark.....	21
Camp Dodge zone, Iowa.....	14	Portsmouth and Norfolk County health district, Va.....	64
Camp Doniphan zone, Okla.....	4	Camp Shelby zone, Miss.....	10
Camp Eberts zone, Ark.....	3	Camp Sheridan zone, Ala.....	45
Camp Gordon zone, Ga.....	22	Camp Sherman zone, Ohio.....	13
Camp Greene zone, N. C.....	15	Camp Zachary Taylor zone, Ky.....	26
Gulfport health district, Miss.....	5	Tidewater health district, Va.....	16
Camp Joseph E. Johnston zone, Fla.....	47	Camp Travis zone, Tex.....	29
Fort Leavenworth zone, Kans.....	11	Vancouver zone, Wash.....	1
Camp Lee zone, Va.....	52	Camp Wadsworth zone, S. C.....	3
Camp Logan zone, Tex.....	68	Camp Wheeler zone, Ga.....	19
Camp MacArthur zone, Tex.....	2		

LEPROSY.**Louisiana.**

During the month of July, 1918, 3 cases of leprosy were notified in Louisiana. Two cases were reported from Mandeville and one from New Orleans.

MALARIA.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

	Cases.		Cases.
Camp Bowie zone, Tex.....	1	Camp Pike zone, Ark.....	23
Camp Eberts zone, Ark.....	63	Portsmouth and Norfolk County health district, Va.....	6
Camp Gordon zone, Ga.....	2	Camp Shelby zone, Miss.....	5
Gulfport health district, Miss.....	21	Camp Sheridan zone, Ala.....	2
Camp Hancock zone, Ga.....	6	Camp Travis zone, Tex.....	1
Camp Joseph E. Johnston zone, Fla.....	1	Camp Wadsworth zone, S. C.....	1
Camp Lee zone, Va.....	1	Camp Wheeler zone, Ga.....	2
Camp MacArthur zone, Tex.....	1		

MALARIA—Continued.**State Reports for July, 1918.**

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Maryland—Continued.	
Anne Arundel County.....	15	St. Mary's County—Continued.	
Baltimore County—		Great Mills.....	1
Halethorpe.....	1	Jarboesville.....	2
Charles County—		Pearsons.....	2
Bryantown.....	1	Beausvue.....	1
Waldorf.....	1	Beachville.....	1
Dorchester County—		Talbot County—	
Taylors Island.....	2	Easton.....	2
Toddville.....	1	Wicomico County—	
Crapo.....	1	Fruitland.....	2
Harford County—		Allen.....	1
Edgewood.....	1	Salisbury.....	3
Abingdon.....	3	White Haven.....	1
Kent County—		Total.....	59
Chestertown.....	2		
Prince Georges County—		Massachusetts:	
Mitchellville.....	1	Bristol County—	
Chillum.....	1	Fall River.....	2
Halls.....	1	Essex County—	
Sunland.....	1	Lynn.....	1
Piscataway.....	1	Middlesex County.....	3
Somerset County—		Norfolk County—	
Princess Anne.....	1	Dedham (town).....	3
Mount Vernon.....	1	Suffolk County—	
Kingston.....	1	Boston.....	4
St. Mary's County—		Worcester County—	
Airdale.....	2	Blackstone (town).....	3
Wynne.....	1	Total.....	16
Park Hall.....	1		
St. Ingoes.....	1		
Drayden.....	1		

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Abilene, Tex.....	1	.....	Louisville, Ky.....	1	.....
Alexandria, La.....	5	.....	Marshall, Tex.....	2	.....
Birmingham, Ala.....	6	.....	Memphis, Tenn.....	2	.....
Boston, Mass.....	1	.....	Mobile, Ala.....	1	.....
Dedham, Mass.....	1	.....	Montgomery, Ala.....	1	.....
Hattiesburg, Miss.....	3	.....	Newark, N. J.....	2	.....
Independence, Kans.....	1	.....	Richmond, Va.....	6	.....
Independence, Mo.....	1	.....	San Francisco, Cal.....	2	.....
Leavenworth, Kans.....	2	.....	Tuscaloosa, Ala.....	5	.....
Little Rock, Ark.....	8	.....		

MEASLES.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

Cases.	Cases.
Bremerton zone, Wash.....	2
Gamp Gordon zone, Ga.....	1
Gulfport health district, Miss.....	2
Camp Joseph E. Johnston zone, Fla.....	1
Portsmouth and Norfolk County health district, Va.....	1
Portsmouth-Kittery sanitary district, N. H. and Me.....	4
Camp Shelby zone, Miss.....	1
Tidewater health district, Va.....	1

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1416.

PELLAGRA.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

Cases.	Cases.
Camp Eberts zone, Ark.....	2
Gulfport health district, Miss.....	1
Camp Hancock zone, Ga.....	2
Camp Pike zone, Ark.....	2

PELLAGRA—Continued.

State Reports for July, 1918.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	1	Maryland—Continued.	
Maryland:		Wicomico County—	
Baltimore.....	1	Jesterville.....	1
Dorchester County—		Total.....	5
Wingate.....	1	Massachusetts:	
Somerset County—		Middlesex County—	
Crisfield.....	1	Everett.....	1
Lawsonia.....	1		

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.....	7	1	Marshall, Tex.....	1	
Charleston, S. C.....		1	Memphis, Tenn.....		2
Corsicana, Tex.....	1	1	Montgomery, Ala.....		1
Dallas, Tex.....	1	1	Nashville, Tenn.....		1
Durham, N. C.....	1		Richmond, Va.....	3	2
Houston, Tex.....		1	Tuscaloosa, Ala.....	1	
Independence, Kans.....	1		Washington, D. C.....	1	
Los Angeles, Cal.....	1		Wichita, Kans.....	1	

PNEUMONIA.

Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.

	Cases.		Cases.
Camp Gordon zone, Ga.....	1	Camp Shelby zone, Miss.....	1
Fort Oglethorpe zone, Ga. and Tenn.....	1		

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	13	2	Nashville, Tenn.....	3	4
Boston, Mass.....	5	5	Newark, N. J.....	10	3
Brocton, Mass.....	1		Newton, Mass.....	2	
Chelsea, Mass.....	1	1	Oakland, Cal.....	2	2
Chicago, Ill.....	16	22	Philadelphia, Pa.....	26	12
Cleveland, Ohio.....	9	7	Pittsfield, Mass.....	3	5
Corning, N. Y.....	1		Pontiac, Mich.....	1	1
Corsicana, Tex.....	1		Rochester, N. Y.....	1	1
Detroit, Mich.....	2	8	San Diego, Cal.....	1	1
Fall River, Mass.....	1		San Francisco, Cal.....	9	9
Flint, Mich.....	2		Schenectady, N. Y.....	1	
Jackson, Mich.....	1		Somerville, Mass.....	1	
Lackawanna, N. Y.....	1		Springfield, Mass.....	2	2
Little Rock, Ark.....	2	1	Springfield, Ohio.....	1	
Los Angeles, Cal.....	5	4	Tacoma, Wash.....	1	1
Louisville, Ky.....	1	3	Yonkers, N. Y.....	4	
Lynn, Mass.....	2	1			

POLIOMYELITIS (INFANTILE PARALYSIS).**State Reports for July, 1918.**

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Massachusetts—Continued.	
Baltimore.....	11	Middlesex County—	
Baltimore County—		Cambridge.....	1
Reisterstown.....	1	Medford.....	1
Upper Falls.....	1	Newton.....	1
Howard County—		Suffolk County—	
Woodstock.....	1	Boston.....	1
Worcester County—		Worcester County—	
Bishopville.....	1	Warren (town).....	1
Total.....	15	Total.....	10
Massachusetts:		Vermont:	
Bristol County—		Rutland County.....	1
New Bedford.....	3	Windsor County.....	2
Essex County—		Total.....	3
Beverly (town).....	1		
Hampshire County—			
Easthampton (town).....	1		

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	2	.....	Kenosha, Wis.....	1	1
Braddock, Pa.....	1	.....	Los Angeles, Cal.....	1	.....
Burlington, Iowa.....	1	1	New Castle, Pa.....	1	.....
Chicago, Ill.....	5	1	New York, N. Y.....	7	2
Cincinnati, Ohio.....	4	.....	Philadelphia, Pa.....	.....	1
Detroit, Mich.....	1	.....	Pittsburgh, Pa.....	3	.....
Dover, N. H.....	1	.....	Portland, Oreg.....	1	.....
Dubuque, Iowa.....	4	.....	St. Louis, Mo.....	2	1
Evansville, Ind.....	1	.....	Toledo, Ohio.....	1	.....
Grand Rapids, Mich.....	1	1			

RABIES IN ANIMALS.**City Reports for Week Ended Aug. 3, 1918.**

During the week ended August 3, 1918, rabies in animals was reported as follows: Bristol, R. I., one case; Louisville, Ky., one case; Rochester, N. Y., seven cases.

SCARLET FEVER.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

Cases.	Cases.
Camp Dodge zone, Iowa.....	4
Camp Funston zone, Kans.....	1
Camp Gordon zone, Ga.....	3
Camp Greene zone, N. C.....	2
Camp Lee zone, Va.....	2
Camp McClellan zone, Ala.....	1
Fort Oglethorpe zone, Ga. and Tenn.....	1
Portsmouth-Kittery sanitary district, N. H. and Me.....	1
Camp Sheridan zone, Ala.....	1
Camp Travis zone, Tex.....	1
Vancouver zone, Wash.....	2

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1416.

SMALLPOX.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

Cases.	Cases.
Camp Dodge zone, Iowa.....	1
Camp Gordon zone, Ga.....	1
Fort Leavenworth zone, Kans.....	1
Camp McClellan zone, Ala.....	1
Camp Zachary Taylor zone, Ky.....	2

SMALLPOX—Continued.

Maryland—Cumberland—Correction.

The publication of one death from smallpox at Cumberland, Md., for the week ended July 13, 1918, in the Public Health Reports of August 2, 1918, page 294, was an error, no death from smallpox having occurred at Cumberland for several months.

State Reports for July, 1918—Vaccination Histories.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Arizona:						
Cochise County—						
Texas Canyon.....	5		4		1	
District of Columbia.....	6			1	5	
Massachusetts:						
Suffolk County—						
Boston.....	1				1	

Vermont Report for July, 1918.

During the month of July seven cases of smallpox were reported in Vermont, five cases occurring in Orleans County, and one each in Rutland and Windham Counties.

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	3		La Crosse, Wis.....	1	
Beaver Falls, Pa.....	1		Lima, Ohio.....	1	
Birmingham, Ala.....	3		Lincoln, Nebr.....	3	
Brazil, Ind.....	1		Lorain, Ohio.....	2	
Butte, Mont.....	1		Louisville, Ky.....	1	
Cape Girardeau, Mo.....	2		Madison, Wis.....	1	
Cedar Rapids, Iowa.....	1		Marion, Ind.....	2	
Charleston, W. Va.....	1		Milwaukee, Wis.....	4	
Cincinnati, Ohio.....	4		Mount Vernon, Ohio.....	2	
Cleveland, Ohio.....	1		Muncie, Ind.....	2	
Council Bluffs, Iowa.....	1		New Castle, Ind.....	3	
Covington, Ky.....	2		Oklahoma City, Okla.....	3	
Dallas, Tex.....	2		Omaha, Nebr.....	9	
Denver, Colo.....	13		Peoria, Ill.....	1	
Des Moines, Iowa.....	3		Racine, Wis.....	1	
Detroit, Mich.....	5		Richmond, Ind.....	2	
Dubuque, Iowa.....	5		St. Joseph, Mo.....	2	
Duluth, Minn.....	1		St. Louis, Mo.....	3	
Elgin, Ill.....	1		St. Paul, Minn.....	7	
Evansville, Ind.....	5		Salt Lake City, Utah.....	2	1
Flint, Mich.....	1		San Jose, Cal.....	4	
Fort Worth, Tex.....	5		Seattle, Wash.....	7	
Great Falls, Mont.....	2		South Bend, Ind.....	1	
Greeley, Colo.....	4		Spokane, Wash.....	1	
Greenville, Tex.....	1		Stockton, Cal.....	2	
Hammond, Ind.....	1		Superior, Wis.....	2	
Hartford, Conn.....	1		Terre Haute, Ind.....	1	
Indianapolis, Ind.....	2		Toledo, Ohio.....	1	
Jamestown, N. Y.....	3		Tuscaloosa, Ala.....	1	
Kansas City, Kans.....	1		Washington, D. C.....	4	
Kansas City, Mo.....	1		Youngstown, Ohio.....	1	

SYPHILIS.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

	Cases.		Cases.
Camp Bowie zone, Tex.....	118	Fort Oglethorpe zone, Ga. and Tenn.....	7
Camp Dodge zone, Iowa.....	4	Camp Pike zone, Ark.....	20
Camp Eberts zone, Ark.....	4	Portsmouth and Norfolk County health district, Va.....	7
Camp Gordon zone, Ga.....	18	Portsmouth-Kittery sanitary district, N. H. and Me.....	1
Camp Greene zone, N. C.....	10	Camp Sheridan zone, Ala.....	17
Gulfport health district, Miss.....	1	Camp Zachary Taylor zone, Ky.....	19
Camp Joseph E. Johnston zone, Fla.....	39	Tidewater health district, Va.....	8
Fort Leavenworth zone, Kans.....	1	Camp Travis zone, Tex.....	13
Camp Lee zone, Va.....	14	Camp Wheeler zone, Ga.....	5
Camp Logan zone, Tex.....	14		
Camp McClellan zone, Ala.....	4		

TETANUS.**City Reports for Week Ended Aug. 3, 1918.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Lincoln, Nebr.....		1	Pasadena, Cal.....	1	
Los Angeles, Cal.....	1		Philadelphia, Pa.....	2	1
Norfolk, Va.....		1	San Francisco, Cal.....		1

TUBERCULOSIS.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

	Cases.		Cases.
Camp Dodge zone, Iowa.....	1	Camp Pike zone, Ark.....	3
Camp Eberts zone, Ark.....	4	Portsmouth and Norfolk County health district, Va.....	9
Camp Gordon zone, Ga.....	7	Portsmouth-Kittery sanitary district, N. H. and Me.....	1
Camp Greene zone, N. C.....	1	Camp Shelby zone, Miss.....	2
Gulfport health district, Miss.....	1	Camp Sherman zone, Ohio.....	3
Camp Hancock zone, Ga.....	9	Camp Zachary Taylor zone, Ky.....	18
Camp Joseph E. Johnston zone, Fla.....	4	Tidewater health district, Va.....	1
Fort Leavenworth zone, Kans.....	4	Camp Travis zone, Tex.....	5
Camp Lewis zone, Wash.....	1	Camp Wheeler zone, Ga.....	3
Camp Logan zone, Tex.....	20		
Camp MacArthur zone, Tex.....	1		

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1416.

TYPHOID FEVER.**Cases Reported in Extra-Cantonment Zones, Week Ended Aug. 17, 1918.**

	Cases.		Cases.
Camp Beauregard zone, La.....	6	Camp McClellan zone, Ala.....	5
Camp Bowie zone, Tex.....	10	Fort Oglethorpe zone, Ga. and Tenn.....	3
Camp Dodge zone, Iowa.....	2	Camp Pike zone, Ark.....	3
Camp Funston zone, Kans.....	1	Portsmouth and Norfolk County health district, Va.....	7
Camp Gordon zone, Ga.....	13	Camp Sheridan zone, Ala.....	9
Camp Greene zone, N. C.....	15	Camp Sherman zone, Ohio.....	3
Gulfport health district, Miss.....	12	Camp Zachary Taylor zone, Ky.....	13
Camp Hancock zone, Ga.....	1	Tidewater health district, Va.....	10
Camp Jackson zone, S. C.....	3	Camp Travis zone, Tex.....	6
Camp Joseph E. Johnston zone, Fla.....	6	Camp Wadsworth zone, S. C.....	3
Camp Lee zone, Va.....	3	Camp Wheeler zone, Ga.....	5
Camp Logan zone, Tex.....	2		
Camp MacArthur zone, Tex.....	4		

TYPHOID FEVER—Continued.

State Reports for July, 1918.

Place.	New cases reported.	Place.	New cases reported.
Arizona:		Maryland—Continued.	
Gila County—		Kent County—	
Claypool.....	3	Millington.....	1
Miami.....	9	Montgomery County—	
Graham County—		Gaithersburg.....	1
Thatcher.....	3	Washington Grove.....	1
Maricopa County—	2	Prince George County—	
Glendale.....	1	Dupont Heights.....	1
Phoenix.....	4	Berwyn Heights.....	5
Tempe.....	1	Capitol Heights.....	2
Total.....	23	Clinton.....	1
District of Columbia.....	46	Acrookeek.....	1
Maryland:		Lakeland.....	3
Baltimore.....	38	Berwyn.....	1
Allegany County—		Somerset County—	
Allegany Hospital.....	2	Pocomoke City.....	1
Luke.....	2	Princess Anne.....	1
Corrigansville.....	1	Doughertytown.....	4
Eckhart.....	2	Bedsworth.....	1
Anne Arundel County—		Shalltown.....	1
West River.....	2	St. Marys County—	
Jones.....	1	Hermansville.....	1
Brooklyn.....	2	Talbot County—	
Drury.....	1	Trappe.....	1
Round Bay.....	1	Washington County—	
Baltimore County—		Yarrowsburg.....	1
Morrell Park.....	2	Hagerstown.....	2
Chase.....	1	Williamsport.....	1
Highlandtown.....	2	Security.....	1
Halethorpe.....	1	Brownsville.....	1
Rossville.....	2	Wicomico County—	
Arlington.....	1	Willards.....	1
Raspeburg.....	1	Hebron.....	1
Sudbrook Park.....	1	Peninsula General Hospital.....	1
Arcadia.....	1	Worcester County—	
Westport.....	1	Stockton.....	1
Ruxton.....	1	Berlin.....	3
Calvert County—		Pocomoke City.....	1
Huntingtown.....	1	Ocean City.....	1
Chesapeake Beach.....	1	Total.....	150
Willows.....	1		
Solomons.....	1	Massachusetts:	
Sunderland.....	1	Berkshire County—	
Paran.....	1	Lee (town).....	5
Caroline County—		North Adams.....	1
Laurel Grove.....	1	Pittsfield.....	2
Greensboro.....	1	Bristol County—	
Carroll County—		Attleboro.....	1
Jordan's Retreat.....	1	Fall River.....	20
Woodbine.....	1	New Bedford.....	6
Cecil County—		North Attleboro (town).....	1
Elkton.....	1	Norton (town).....	1
Theodore.....	1	Somerset (town).....	1
Charles County—		Taunton.....	2
Marbury.....	1	Essex County—	
Pisgah.....	1	Amesbury (town).....	1
Waldorf.....	4	Andover (town).....	3
La Plata.....	2	Beverly.....	1
White Plains.....	1	Haverhill.....	2
Pomfret.....	1	Lawrence.....	2
Newburg.....	2	Lynn.....	2
Dorchester County—		Nahant (town).....	1
Cambridge.....	2	Rockport (town).....	1
Petersburg.....	1	Rowley (town).....	5
Vienna.....	1	Salem.....	1
Church Creek.....	1	Franklin County—	
Frederick County—		Greenfield (town).....	1
Frederick.....	3	Montague (town).....	1
Buckeystown.....	1	Hampden County—	
Walkersville.....	4	Ludlow (town).....	1
Barnesville.....	1	Russell (town).....	3
Garrett County—		Springfield.....	4
Dodson.....	1	Middlesex County—	
Harford County—		Cambridge.....	3
Bel Air.....	2	Everett.....	1
Howard County—		Framingham (town).....	1
Dayton.....	1	Lowell.....	1

TYPHOID FEVER—Continued.

State Reports for July, 1918—Continued.

Place.	New cases reported.	Place.	New cases reported.
Massachusetts—Continued.		Massachusetts—Continued.	
Middlesex County—Continued.		Worcester County—	
Malden	1	Clinton	2
Melrose	2	North Brookfield (town)	2
Newton	1	West Brookfield (town)	1
Pepperell (town)	1	Worcester	3
Somerville	2	Total	112
Watertown (town)	1	Vermont:	
Wilmington (town)	1	Addison County	1
Norfolk County—		Chittenden County	3
Foxborough (town)	2	Washington County	1
Quincy	1	Windham County	1
Wellesley (town)	1	Total	6
Plymouth County—			
Brockton	2		
Hull (town)	1		
Suffolk County—			
Boston	10		
Chelsea	2		
Winthrop (town)	1		

City Reports for Week Ended Aug. 3, 1918.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Abilene, Tex.	1		Hoboken, N. J.	1	1
Alexandria, La.	1		Houston, Tex.	1	1
Anniston, Ala.	3		Independence, Kans.	1	
Atlanta, Ga.	3		Independence, Mo.	3	
Atlantic City, N. J.	1		Indianapolis, Ind.	3	1
Baltimore, Md.	6		Iola, Kans.	1	
Beloit, Wis.	1		Jackson, Mich.	1	
Birmingham, Ala.	23	1	Jacksonville, Ill.	9	
Boston, Mass.	3	1	Jersey City, N. J.	1	
Bridgeport, Conn.	1		Kansas City, Kans.	1	
Buffalo, N. Y.	5		Kansas City, Mo.	9	
Butte, Mont.	1		Knoxville, Tenn.	1	
Canton, Ohio.	1	1	Lawrence, Mass.		1
Carnegie, Pa.	1		Lexington, Ky.	1	3
Charleston, S. C.	10	2	Little Rock, Ark.	5	
Charleston, W. Va.	15		Lorain, Ohio.	1	
Charlotte, N. C.	6	3	Los Angeles, Cal.	3	1
Chicago, Ill.	12	1	Louisville, Ky.	2	2
Chillicothe, Ohio.	2		Lowell, Mass.	1	
Cincinnati, Ohio.	5		Lynn, Mass.	2	
Cleveland, Ohio.	9	1	Manchester, N. H.		1
Coffeyville, Kans.	1		Mattoon, Ill.	1	
Columbus, Ohio.	4		Memphis, Tenn.	7	
Corpus Christi, Tex.	2	2	Minneapolis, Minn.	2	
Corsicana, Tex.	3		Mobile, Ala.	2	
Covington, Ky.		1	Moline, Ill.	11	
Cumberland, Md.	1		Montgomery, Ala.	7	
Dallas, Tex.	1	2	Mount Vernon, Ohio.		1
Danville, Ill.	3		Nashville, Tenn.	10	4
Dayton, Ohio.	2		New Bedford, Mass.	1	
Denver, Colo.	1		New Haven, Conn.	2	
Detroit, Mich.	9	2	New Orleans, La.	6	
Du Bois, Pa.	1		New York, N. Y.	70	5
Duluth, Minn.	1		Niagara Falls, N. Y.	1	
Durham, N. C.		5	Norristown, Pa.	1	
Eau Claire, Wis.	1		North Tonawanda, N. Y.	1	
Evansville, Ind.	3		North Yakima, Wash.	1	
Fairmont, W. Va.	14		Oakland, Cal.	1	
Fall River, Mass.	7	1	Ogden, Utah.	2	
Fort Worth, Tex.		3	Oklahoma City, Okla.	1	1
Galesburg, Ill.	2		Omaha, Nebr.	1	
Galveston, Tex.	1		Petersburg, Va.		1
Geneva, N. Y.	1		Philadelphia, Pa.	8	
Greeley, Colo.	1		Piqua, Ohio.	1	
Greenville, Tex.	3		Plainfield, N. J.	1	
Hackensack, N. J.	1		Portland, Me.	3	
Hammond, Ind.	3		Quincy, Ill.	1	
Harrisburg, Pa.	1		Reading, Pa.	1	
Hartford, Conn.	4		Redlands, Cal.	1	

TYPHOID FEVER—Continued.

City Reports for Week Ended Aug. 3, 1918—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Richmond, Va.....	6	1	Sunbury, Pa.....	7	.....
Riverside, Cal.....	1	.....	Tacoma, Wash.....	2	.....
Rock Island, Ill.....	4	.....	Toledo, Ohio.....	3	1
Rocky Mount, N. C.....	1	.....	Topeka, Kans.....	5	1
St. Joseph, Mo.....	2	.....	Troy, N. Y.....	1	.....
St. Louis, Mo.....	10	.....	Walla Walla, Wash.....	3	.....
San Diego, Cal.....	2	.....	Washington, D. C.....	16	5
San Francisco, Cal.....	5	1	Watertown, Mass.....	1	.....
Seattle, Wash.....	1	.....	Webster, Mass.....	1	.....
Sedalia, Mo.....	1	.....	West Chester, Pa.....	2	.....
Shenandoah, Pa.....	1	.....	Wheeling, W. Va.....	8	1
Sioux Falls, S. Dak.....	1	.....	Wichita, Kans.....	3	.....
Spartanburg, S. C.....	2	1	Wilmington, Del.....	1	.....
Springfield, Ill.....	2	.....	Winston-Salem, N. C.....	2	1
Springfield, Ohio.....	1	.....	Woburn, Mass.....	1	.....
Stockton, Cal.....	2	.....	Youngstown, Ohio.....	2	.....

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for July, 1918.

State.	Cases reported.			State.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
Arizona.....	.....	1	1	Massachusetts.....	453	1,962	200
District of Columbia.....	23	79	16	Vermont.....	21	91	20
Maryland.....	54	554	47				

City Reports for Week Ended Aug. 3, 1918.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Over 500,000 inhabitants:											
Baltimore, Md.	589,621	203	7	1	18	3	1	.....	11	20
Boston, Mass.	756,476	200	32	2	54	2	9	.....	56	17
Chicago, Ill.	2,497,722	494	65	7	24	.....	16	.....	295	47
Cleveland, Ohio.	674,073	176	10	2	9	1	3	.....	13	20
Detroit, Mich.	571,784	169	36	4	9	1	9	1	35	16	
Los Angeles, Cal.	503,812	116	18	.....	12	.....	2	.....	34	22
New York, N. Y.	5,602,841	1,120	181	13	118	5	26	2	366	123	
Philadelphia, Pa.	1,709,518	494	33	.....	72	1	7	.....	123	51
Pittsburgh, Pa.	579,060	.....	6	.....	35	.....	4	.....	8	.....
St. Louis, Mo.	757,309	204	16	3	7	.....	3	.....	42	9
From 300,000 to 500,000 inhabit- ants:											
Buffalo, N. Y.	488,558	142	9	3	43	.....	4	.....	24	9
Cincinnati, Ohio.	410,476	87	10	.....	11	.....	1	.....	20	8
Jersey City, N. J.	306,345	.....	10	.....	2	.....	3	.....	.....	35
Milwaukee, Wis.	436,535	74	6	1	38	.....	10	1	25	12
Minneapolis, Minn.	363,454	64	4	.....	6	1	5	1	8	9
Newark, N. J.	406,894	98	12	.....	16	3	2	.....	41	10
New Orleans, La.	371,747	6	6	.....	2	.....	.....	.....	31	.....
San Francisco, Cal.	463,516	126	7	.....	22	.....	4	1	25	16
Seattle, Wash.	348,639	.....	4	.....	5	.....	11	.....	.....	.....
Washington, D. C.	363,980	131	3	.....	11	1	4	.....	27	19
From 200,000 to 300,000 inhabit- ants:											
Columbus, Ohio.	214,878	59	1	.....	1	.....	3	.....	3	5
Denver, Colo.	260,800	94	9	1	3	1	6	.....	.....	14
Indianapolis, Ind.	271,708	76	11	1	1	.....	1	.....	17	10
Kansas City, Mo.	297,847	99	2	1	.....	.....	.....	.....	1	9

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Aug. 3, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 200,000 to 300,000 inhabit- ants—Continued.										
Louisville, Ky.	233,910	67	4		1				6	10
Portland, Oreg.	295,465	51			13				8	1
Providence, R. I.	254,960	64	3	1	16		3			5
Rochester, N. Y.	256,417	79	4	2	27		3		9	3
St. Paul, Minn.	247,232	54	12		4		2		4	5
From 100,000 to 200,000 inhabit- ants:										
Atlanta, Ga.	190,558	49	1				1		2	
Birmingham, Ala.	181,762	45	2		1		1			5
Bridgeport, Conn.	121,579	30	5		3				5	3
Cambridge, Mass.	112,961	28	2		3				3	2
Dallas, Tex.	124,627	35					1		3	4
Dayton, Ohio	127,244	31		1			1			3
Des Moines, Iowa	101,598		4	1			2			
Fall River, Mass.	128,366	49	1		2				11	3
Fort Worth, Tex.	104,562	22							1	1
Grand Rapids, Mich.	128,291	30	4		3		3		8	2
Hartford, Conn.	110,900	36	4		1				3	6
Houston, Tex.	112,307	30	2	1					3	3
Lawrence, Mass.	100,560	18	2		5	1			3	1
Lowell, Mass.	113,245	36	1		16		2		3	4
Lynn, Mass.	102,425	21	3		8				4	3
Memphis, Tenn.	148,995	59							9	12
Nashville, Tenn.	117,057	48			1				4	2
New Bedford, Mass.	118,158	56	1						12	5
New Haven, Conn.	149,685		1		6				11	3
Oakland, Cal.	198,604	41	3				1		7	2
Omaha, Nebr.	165,470	39	10	1			2			5
Reading, Pa.	109,381		6		10		2		4	
Richmond, Va.	156,687	48	2	1	1		2		4	3
Salt Lake City, Utah.	117,394	21	5	1	4	1	7			
Spokane, Wash.	150,323						3			
Springfield, Mass.	105,942	28	1		2				3	
Syracuse, N. Y.	155,624	55			2		1		3	1
Tacoma, Wash.	112,770		2		10		5		1	
Toledo, Ohio	191,554	50	9	2	2		9			3
Trouton, N. J.	111,598	29	4	1	13				6	2
Worcester, Mass.	163,314	44	1	1	10		1		5	4
Youngstown, Ohio.	108,385	28	2		1		1		3	
From 80,000 to 100,000 inhabit- ants:										
Akron, Ohio.	85,625	33	3		1		4		5	
Allentown, Pa.	63,505		1		34					
Atlantic City, N. J.	57,660	13	1		3				11	
Bayonne, N. J.	69,993				1					
Berkeley, Cal.	57,653	13	1		1		2		1	
Binghamton, N. Y.	53,973	16	1		5		1		1	1
Brockton, Mass.	67,449	17	1		1		1		2	1
Canton, Ohio	60,852	14	2							1
Charleston, S. C.	60,734	29								4
Covington, Ky.	57,144	18	1						2	1
Duluth, Minn.	94,495	11	1	1	1				3	
El Paso, Tex.	63,706	32								10
Erie, Pa.	75,195		2		4					
Evansville, Ind.	76,078		1						2	6
Flint, Mich.	54,772	8	2				1			
Fort Wayne, Ind.	76,183	23	1	1					3	
Harrisburg, Pa.	72,015				1					
Hoboken, N. J.	77,314	15	6	1					2	2
Holyoke, Mass.	65,286	15			1					1
Johnstown, Pa.	68,529		1		2					
Kansas City, Kans.	90,437		2							
Lancaster, Pa.	50,853								2	
Little Rock, Ark.	57,343	14			1					2
Malden, Mass.	51,155	12			2		1			1
Manchester, N. H.	78,283	30	5		1				5	2
Mobile, Ala.	58,221	18	1						1	2
New Britain, Conn.	58,794				1				11	2
Norfolk, Va.	80,612									4
Oklahoma City, Okla.	92,943	19								2
Pasadena, N. J.	71,744	21	2	1	9				6	1

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Aug. 3, 1918—Continued.

City.	Population as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
From 50,000 to 100,000 inhabitants—Continued.											
Peoria, Ill.	71,458	16			2						
Portland, Me.	63,867	26	1		1						
Rockford, Ill.	55,185	14	1								
Sacramento, Cal.	66,895	8					6		3		
Saginaw, Mich.	55,642	11	2							1	
St. Joseph, Mo.	85,236	27	1						2	2	
San Diego, Cal.	53,330	23					1		8	2	
Schenectady, N. Y.	99,519	16	1		2				4	2	
Somerville, Mass.	87,039	23	3				1		3	2	
South Bend, Ind.	68,946	19			1				3	4	
Springfield, Ill.	61,120	18	1				1			2	
Springfield, Ohio.	51,550	8			2				3	1	
Terre Haute, Ind.	66,083	14		1					1	3	
Troy, N. Y.	77,916	22								1	
Wichita, Kans.	70,722								3	1	
Wilkes-Barre, Pa.	76,776		3		6				5		
Wilmington, Del.	94,265	28	3	1					1	1	
Yonkers, N. Y.	99,838	15			19				10	3	
From 25,000 to 50,000 inhabitants:											
Alameda, Cal.	27,732	9			2		1				
Brookline, Mass.	32,730	8			2		1		1		
Burlington, Iowa.	25,030	6	6								
Butler, Pa.	27,632		1								
Butte, Mont.	43,425	25	1								
Cedar Rapids, Iowa.	37,308		1				1				
Charleston, W. Va.	29,941	5	5							1	
Charlotte, N. C.	39,823	39					8			1	
Chester, Mass.	46,192	14	1						3	2	
Chester, Pa.	41,396										
Chicopee, Mass.	29,319	6	1						2		
Clinton, Iowa.	27,386						1				
Cohoes, N. Y.	25,211	8							1	3	
Council Bluffs, Iowa.	31,484	18									
Cumberland, Md.	26,074	4							3		
Danville, Ill.	32,261	11									
Davenport, Iowa.	48,811		2								
Durham, N. C.	25,061	4									
Easton, Pa.	30,530				6				1		
East Orange, N. J.	42,458	5							2		
Elgin, Ill.	28,203	3								1	
Elmira, N. Y.	38,120				28				1		
Evanston, Ill.	28,591	4								1	
Everett, Mass.	39,235	8									
Everett, Wash.	35,486				1						
Galveston, Tex.	41,863	10							1	2	
Green Bay, Wis.	29,353	10							4	2	
Hammond, Ind.	26,171	11							1		
Haverhill, Mass.	48,477		2		13				2	3	
Hazleton, Pa.	28,491		1		8						
Jackson, Mich.	35,363	8			2					2	
Jamestown, N. Y.	36,580	9			19				1	2	
Kalamazoo, Mich.	48,886	20	2		6				4	1	
Kenosha, Wis.	31,576	9	2	1	9					1	
Knoxville, Tenn.	38,676		1	1	3				2	2	
La Crosse, Wis.	31,677	5	1						1		
Lexington, Ky.	41,097	14							9	3	
Lima, Ohio.	35,384	6	3				2				
Lincoln, Nebr.	46,515	10									
Long Beach, Cal.	27,587	8	1		1				1	1	
Lorain, Ohio.	36,964								1		
Lynchburg, Va.	32,940	13								2	
Madison, Wis.	30,669	2					1				
McKeesport, Pa.	47,521		1		1				2		
Medford, Mass.	26,234	10	1		3				1	1	
Moline, Ill.	27,451	7	1		1						
Montclair, N. J.	26,318	5							1	1	
Montgomery, Ala.	43,285	13		2					1	1	
Mount Vernon, N. Y.	37,009	5							1		
Muncie, Ind.	25,424	6	4						1	1	
Nashua, N. H.	27,327	11									

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Aug. 3, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
From 25,000 to 50,000 inhabit- ants—Continued.											
Newark, Ohio.....	29,635	7									
Newburgh, N. Y.....	29,003	6									
New Castle, Pa.....	41,133								8		
Newport, R. I.....	30,108	1									
Newton, Mass.....	43,715	10	2	1	1						
Niagara Falls, N. Y.....	37,353	5	1		7				1		
Norristown, Pa.....	31,401						1				
Oak Park, Ill.....	26,654	6									
Ogden, Utah.....	31,404	7	2		4				2		
Orange, N. J.....	33,080	15	1						2		
Oshkosh, Wis.....	36,065	7									
Pasadena, Cal.....	46,450	14			2				3		
Perth Amboy, N. J.....	41,185								2		
Petersburg, Va.....	25,582	3								1	
Pittsfield, Mass.....	38,629	12							3	2	
Poughkeepsie, N. Y.....	30,390	5	2		1				1	1	
Quincy, Ill.....	36,798	8	1						1	1	
Quincy, Mass.....	38,136	4	2		2						
Racine, Wis.....	46,486	3					1				
Rock Island, Ill.....	28,926	6			4						
San Jose, Cal.....	38,902				2						
Sheboygan, Wis.....	28,559	5			1					1	
Shenandoah, Pa.....	29,201		2		1		1		2		
Springfield, Mo.....	40,341	10							1		
Steubenville, Ohio.....	27,445	11	1				2		1		
Stockton, Cal.....	35,358	6					1		2	1	
Superior, Wis.....	46,226	4					4				
Taunton, Mass.....	36,283	13							1	1	
Topeka, Kans.....	48,726	10			3		3		2	1	
Waco, Tex.....	33,355								2	2	
Waltham, Mass.....	30,570	6	1		7						
West Hoboken, N. J.....	43,139	5							3		
Wheeling, W. Va.....	43,377	16	1				1			1	
Williamsport, Pa.....	33,809		1						8		
Winston-Salem, N. C.....	31,155	13	1						1	1	
Zanesville, Ohio.....	30,863	11									
From 10,000 to 25,000 inhabitants:											
Abilene, Tex.....	14,238	2							1		
Adams, Mass.....	14,214	2							1	1	
Alexandria, La.....	15,333	8								3	
Alton, Ill.....	22,874	9								2	
Ansonia, Conn.....	16,704	3							1	1	
Arlington, Mass.....	12,810	3									
Asbury Park, N. J.....	14,007	1							1		
Ashtabula, Ohio.....	21,498	1									
Bakersfield, Cal.....	16,874	7			1				1	1	
Barberton, Ohio.....	13,210	3									
Batavia, N. Y.....	13,350	2							2		
Beacon, N. Y.....	11,555	4									
Beatrice, Nebr.....	10,287	3									
Beloit, Wis.....	18,072	6								1	
Benton Harbor, Mich.....	10,833				1						
Berlin, N. H.....	13,599	3									
Bethlehem, Pa.....	14,142				3				1		
Beverly, Mass.....	21,645	3					1				
Billings, Mont.....	14,422	4			1				5		
Bloomfield, N. J.....	18,468		3				1				
Braddock, Pa.....	21,685		4				1		1		
Brazil, Ind.....	10,215	3	1		1						
Bristol, Conn.....	15,927	6									
Bristol, R. I.....	9,609	4			3	1					
Burlington, Vt.....	21,617	4			2					1	
Cairo, Ill.....	15,794	7									
Cape Girardeau, Mo.....	10,775	1								1	
Carbondale, Pa.....	19,242		1						1		
Carlisle, Pa.....	10,726		1								
Cheyenne, Wyo.....	11,320		3								
Chillicothe, Ohio.....	15,470	4							1		

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Aug. 3, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 10,000 to 25,000 inhabit- ants—Continued.										
Clinton, Mass.	13,075	4			3					
Coffeyville, Kans.	17,548								1	
Concord, N. H.	22,669	8		1	7					
Connellsville, Pa.	15,455						1			
Corning, N. Y.	15,406	3							1	
Corpus Christi, Tex.	10,432	4	2							1
Corsicana, Tex.	10,022	1					1		1	
Cortland, N. Y.	13,069	6	1							
Dedham, Mass.	10,433	3								
Dover, N. H.	13,272	4			1				1	
Dubois, Pa.	14,665		1							
East Cleveland, Ohio.	13,214				1					
Eau Claire, Wis.	18,807				1				1	
Englewood, N. J.	12,231	1			4					
Farrell, Pa.	10,190				1					
Findlay, Ohio.	14,858	3								
Fond du Lac, Wis.	21,113	8								
Gardner, Mass.	17,140				1				1	
Geneva, N. Y.	13,711	3			5		1			
Granite City, Ill.	15,142	13								
Greenfield, Mass.	11,998	6								
Greenville, S. C.	18,181	2								
Greenwich, Conn.	19,159								1	
Hackensack, N. J.	16,945	1			3				1	
Hattiesburg, Miss.	16,482		1							
Hornell, N. Y.	14,685	2			4					
Independence, Kans.	14,506	5							1	
Independence, Mo.	11,672	8								
Iola, Kans.	11,068								1	
Jacksonville, Ill.	15,481	10								2
Johnstown, N. Y.	10,646	5			3					
Kearney, N. J.	23,539	7	1	1			1		2	
Lackawanna, N. Y.	15,987	3			3					
La Fayette, Ind.	21,288	4	1				1			
Leavenworth, Kans.	19,363	5	1				1			
Long Branch, N. J.	15,395	3			1					
Manchester, Conn.	15,551	4								
Manitowoc, Wis.	13,805	8								
Marinette, Wis.	14,610	6			1				1	
Marion, Ind.	19,834	3					1			
Marlboro, Mass.	15,187	1							1	
Marshall, Tex.	13,712	4			1				1	
Mason City, Iowa	14,457	3								
Messillon, Ohio	15,310	6								
Mattoon, Ill.	12,582	3								
Melrose, Mass.	17,445	4	2						1	
Middletown, N. Y.	15,810						1			
Mishawaka, Ind.	16,385	4								
Missoula, Mont.	18,214	2								1
Monessen, Pa.	21,630		4		1					
Morgantown, W. Va.	13,700	3								
Morristown, N. J.	13,284	2								1
Moundsville, W. Va.	11,153	2								1
Mount Carmel, Pa.	20,268		2							
Nanticoke, Pa.	23,126				4		4			
Newburyport, Mass.	15,243	6								
New Castle, Ind.	13,241	4								
New London, Conn.	20,985	10					1		1	1
North Adams, Mass.	22,019	5								
Northampton, Mass.	19,926	7			2					
North Attleboro, Mass.	11,014	1								
North Tonawanda, N. Y.	13,768	4	1		6				2	
Norwood, Ohio.	22,286	3			1					1
Olean, N. Y.	16,624	6								
Parkersburg, W. Va.	20,612	5								
Peabody, Mass.	18,360	4			2				1	1
Peekskill, N. Y.	18,530	8								
Phoenixville, Pa.	11,714				1					

¹ Population Apr. 15, 1910; no estimate made.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS— Continued.

City Reports for Week Ended Aug. 3, 1918—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 10,000 to 25,000 inhabit- ants—Continued.										
Piqua, Ohio.....	14,153	3	1						3	1
Plainfield, N. J.....	23,805	6					1			1
Plymouth, Mass.....	13,743	3								
Plymouth, Pa.....	19,100		1							
Pontiac, Mich.....	17,524	10			3				1	
Port Chester, N. Y.....	16,183	1								
Portsmouth, N. H.....	11,666				1					
Pottsville, Pa.....	22,372		1		9				2	
Rahway, N. J.....	10,219	5		1						1
Raleigh, N. C.....	20,127	14	1		1		1			2
Redlands, Cal.....	14,000	2								1
Richmond, Ind.....	24,697	4					2			
Riverside, Cal.....	19,763	3					2			2
Rocky Mount, N. C.....	12,067	4								
Rome, N. Y.....	23,737								2	
Rutland, Vt.....	14,831	6								
St. Cloud, Minn.....	11,617	2								
San Angelo, Tex.....	10,321	2								1
Sandusky, Ohio.....	20,193	4							2	
Santa Barbara, Cal.....	14,846	3								
Santa Cruz, Cal.....	14,594	5					2		1	
Saratoga Springs, N. Y.....	13,821	7			5					
Sault Ste. Marie, Mich.....	13,919	5	4							
Sedalia, Mo.....	19,449	11								
Shamokin, Pa.....	21,129		2		1					
Sharon, Pa.....	18,616				1					
Spartanburg, S. C.....	21,365	2			1		1		2	
Steclton, Pa.....	15,548		1				1			
Streator, Ill.....	14,304	2	1							
Sunbury, Pa.....	16,360								1	
Tiffin, Ohio.....	12,667	2	1							
Tuscaloosa, Ala.....	10,488	5							1	
Vallejo, Cal.....	16,461	1	1		1					
Vancouver, Wash.....	13,180				1				1	
Watertown, Mass.....	14,867	3							2	
Wausau, Wis.....	19,239	5			2					1
Webster, Mass.....	13,210	1	1							
West Chester, Pa.....	13,176								1	
Westfield, Mass.....	18,391	7								1
Winchester, Mass.....	10,603	1								
Winona, Minn.....	18,583	4								
Woburn, Mass.....	15,969	1								

¹ Population Apr. 15, 1910; no estimate made.

FOREIGN.

PLAGUE ON VESSEL—PORT OF LONDON.

Five cases of plague were reported August 17, 1918, in the port of London, among the crew of a vessel arrived from Calcutta.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	July 21-31, 1918.		Remaining under treatment July 31, 1918.
	New cases.	Deaths.	
Diphtheria.....	3		3
Leprosy.....			13
Malaria.....	13		113
Paratyphoid fever.....	1		5
Typhoid fever.....	38	3	2148
Varicella.....	1		1

¹ From the interior, 13.

² From the interior, 77.

NORWAY.

Influenza—Christiania.

Epidemic influenza, with an estimated number of about 1,500 cases, was reported present at Christiania, Norway, July 13, 1918. The outbreak of the epidemic occurred about June 15, 1918. The character of the disease was stated to resemble that of grippes.¹

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

Reports Received During Week Ended Aug. 23, 1918.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Hungary.....				July 26, 1918: Present.
India:				
Calcutta.....	Apr. 28-May 18.		151	
Java:				
Mid-Java.....				May 30-June 5, 1918: Cases, 33; deaths, 27.
Philippine Islands:				
Provinces.....				June 23-29, 1918: Cases, 38; deaths, 24.
Bohol.....	June 23-29.....	6	3	
Leyte.....	do.....	2	2	
Oriental Negros.....	do.....	10	8	
Sorsogon.....	do.....	20	11	
Provinces.....				June 30-July 6, 1918: Cases, 68; deaths, 26.
Cebu.....	June 30-July 6.....	25	10	
do.....	do.....	2	2	
Leyte.....	do.....	38	11	
Misamis.....	do.....	1	1	
Oriental Negros.....	do.....	1	2	
Surigao.....	do.....	2		

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Aug. 23, 1918—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia.....	June 16-22.....	1	1	
Great Britain:				
London, Port.....	Aug. 17.....	5		On vessel from Calcutta.
India.....				Apr. 21-May 11, 1918: Cases,
Calcutta.....	Apr. 28-May 18....		39	55,395; deaths, 16,932.

SMALLPOX.

Algeria:				
Algiers.....	June 1-30.....	8	2	
Brazil:				
Bahia.....	June 16-22.....	1		
Canada:				
British Columbia—				
Victoria.....	July 28-Aug. 3....	1		
Ontario.....				July 1-31, 1918: Cases, 38.
China:				
Tsingtau.....	June 24-30.....	2	1	
Do.....	July 1-7.....	2		
Colombia:				
Cartagena.....	July 8-15.....		1	
India:				
Calcutta.....	Apr. 28-May 18....		107	
Japan:				
Nagasaki.....	June 17-23.....	6		
Do.....	July 3-9.....	4	1	
Taihoku.....	June 25-July 1....	1	1	
Java:				
Mid-Java.....				May 30-June 5, 1918: Cases, 4.
Mexico:				
Mazatlan.....	July 17-23.....		1	
Philippine Islands:				
Manila.....	June 23-29.....	81	69	Varioloid: Cases, 5; deaths, 1.
Do.....	June 30-July 6....	29	27	Varioloid: Cases, 3; deaths, 1.
Portugal:				
Lisbon.....	July 7-13.....	11		
Spain:				
Seville.....	May 1-31.....		1	

TYPHUS FEVER.

Egypt:				
Alexandria.....	June 11-24.....	277	42	
Japan:				
Nagasaki.....	June 17-23.....		1	
Do.....	July 3-21.....	1	1	
Tunisia:				
Tunis.....	June 29-July 5....	2		
Union of South Africa:				
Cape of Good Hope State.....				Present in interior towns among natives June 2-15, 1918.

YELLOW FEVER.

Brazil:				
Bahia.....	June 16-29.....	9	1	
Ecuador:				
Guayaquil.....	June 16-30.....	15	9	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 29 to Aug. 16, 1918.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Mar. 17-Apr. 13...	2	1	
Calcutta	Apr. 14-20.....		128	
Madras	Mar. 24-May 11.....	4	2	
Rangoon	Mar. 30-May 18.....	25	19	
Indo-China:				Jan. 1-Feb. 28, 1918: Cases, 190; deaths, 126.
Cambodia	Jan. 1-Feb. 28.....	135	83	
Cochin-China	do.....	54	43	May 20-June 16, 1918: Cases, 66; deaths, 55.
Cholon	May 20-June 16.....	4		
Saigon	Apr. 29-May 26.....	64	4	
Tonkin	Jan. 1-31.....	1	43	
Java:				
East Java—				
Surabaya	July 24.....			Present.
Mid-Java				Apr. 15-May 29, 1918: Cases, 701; deaths, 532.
Samarang	July 24.....			Present.
West Java				Feb. 23-June 13, 1918: Cases, 1,319; deaths, 791.
Batavia	Feb. 22-June 13.....	200	93	
Cheribon	June 7-13.....	137	104	
Persia:				
Provinces—				
Kars Province—				December, 1917: 3 or 4 deaths reported daily.
Kazaroun				Present in December, 1917, with about 300 fatal cases reported.
Mahour-Milati				Oct. 2-Nov. 16, 1917: Cases, 78; deaths, 56. In 7 localities.
Khorasan				Nov. 4, 1917: Cases, 6. A part of this province or region extends into Afghanistan.
Seistan				
Philippine Islands:				
Provinces				Apr. 28-June 22, 1918: Cases, 639; deaths, 405.
Bohol	Apr. 28-June 22.....	59	50	
Capiz	Apr. 28-May 4.....	1	1	
Cebu	May 5-June 22.....	35	19	
Leyte	Apr. 28-June 1.....	106	57	
Misamis	Apr. 28-June 22.....	294	163	
Oriental Negros	June 3-22.....	32	15	
Sorsogon	June 2-22.....	20	10	
Surigao	Apr. 28-June 22.....	92	89	
Russia:				
Petrograd	July 7.....			Present.
Sweden:				
Stockholm	July 15.....	5	1	From s. s. Angermanland from Petrograd, Russia.
Switzerland				July 26, 1918: Present.
On vessel:				
S. S. Angermanland	July 14.....	8	1	At Stockholm: from Petrograd.

PLAGUE.

Arabia:				
Aden	May 22-28.....		1	
Argentina:				
Buenos Aires	Apr. 20-May 22.....	16	2	
Tucuman				In March, 1918, 3 cases in an institution.
Ceylon:				
Colombo	Mar. 23-May 11.....	13	13	
China:				
Hongkong	Apr. 14-June 1.....	42	28	
Ecuador:				
Duran	Apr. 1-30.....	2		
Guayaquil	May 1-June 15.....	28	10	
Egypt:				Jan. 1-June 20, 1918: Cases, 204; deaths, 110.
Port Said	May 19-21.....	2	1	1 pneumonic.
Provinces—				
Beni-Souef	Apr. 26-30.....	2	1	
Fayoum	Apr. 21-June 17.....	8	4	
Kenih	May 16.....	1	1	
Minieh	Apr. 23-June 19.....	33	14	5 septicemic.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 29 to Aug. 16, 1918—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Great Britain:				
Erwarton.....	June 19.....	1	1	Rural district, Samford, East Suffolk.
Rochester.....	June 2.....	1	1	From s. s. Somali at Gravesend from Bombay.
India:				Mar. 31-Apr. 20, 1918: Cases, 58,400; deaths, 41,246.
Bassein.....	Mar. 25-Apr. 27.....		90	
Bombay.....	Mar. 24-Apr. 20.....	493	402	
Calcutta.....	Apr. 14-20.....		31	
Henzada.....	Mar. 24-Apr. 13.....		20	
Madras Presidency.....	Mar. 24-May 11.....	442	332	
Mandalay.....	Mar. 17-Apr. 20.....		52	
Moulmein.....	Mar. 24-Apr. 27.....		127	
Myingyan.....	Mar. 17-Apr. 14.....		10	
Pegu.....	Apr. 14-20.....		2	
Prome.....	Mar. 24-Apr. 27.....		23	
Rangoon.....	Mar. 30-May 18.....	384	371	
Toungoo.....	Mar. 24-Apr. 27.....		20	
Indo-China:				Jan. 1-Feb. 23, 1918: Cases, 275; deaths, 200.
Anam.....	Jan. 1-Feb. 23.....	58	38	
Cambodia.....	do.....	128	120	
Cochin-China.....	do.....	85	40	May 20-June 8, 1918: Cases, 60; deaths, 30.
Cholon.....	May 20-June 8.....	12	6	
Saigon.....	Apr. 29-June 8.....	83	36	
Laos.....	Feb. 1-28.....	4	2	
Java:				Jan. 15-Apr. 22, 1918: Cases, 328; deaths, 236.
East Java.....				
Residences—				
Djocjakarta.....	Jan. 15-Apr. 8.....	3	3	
Kediri.....	do.....	13	10	
Madioen.....	do.....	30	30	
Samarang.....	do.....	82	81	
Surabaya.....	do.....	60	60	
Surakarta.....	do.....	12	12	
Peru:				Jan. 1-June 30, 1917: Cases, 245; deaths, 122. July 1-Dec. 31, 1917: Cases, 169; deaths, 89; For distribution according to departments, see Public Health Reports, July 26, 1918, p. 1261; Apr. 1-May 31, 1918: Cases, 71.
Departments—				
Ancachs.....	Apr. 1-15.....	1		
Cajamarca.....	Apr. 16-May 31.....	7		
Lambayeque.....	do.....	8		
Libertad.....	Apr. 1-May 31.....	40		
Lima.....	do.....	6		
Piura.....	do.....	9		
Siam:				
Bangkok.....	May 10-25.....	42	24	
Straits Settlements:				
Singapore.....	Apr. 2-May 18.....	40	33	
On vessel:				
S. S. Somali.....	May 19.....	3	1	At Gravesend, England, from Bombay. Further case developed June 2 in member of crew at Rochester, England.

SMALLPOX.

Algeria:			
Algiers.....	May 1-31.....	113	32
Brazil:			
Bahia.....	May 5-11.....	1	
Rio de Janeiro.....	May 5-June 1.....	27	6
Santos.....	Apr. 22-28.....		1
British East Africa:			
Mombasa.....	Jan. 1-Mar. 31.....		3
Canada:			
British Columbia—			
Victoria.....	June 23-29.....	4	
Do.....	July 7-13.....	1	
Manitoba—			
Winnipeg.....	June 9-22.....	5	
Do.....	July 7-20.....	4	
New Brunswick—			
Moncton.....	June 16-22.....	2	
Do.....	July 7-13.....	4	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 29 to Aug. 16, 1918—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Newfoundland—				
St. Johns.....	June 22-28.....	1		
Nova Scotia—				
Halifax.....	do.....	10		
Do.....	June 30-July 27...	53		
Sydney.....	do.....	3		
Ontario—				
Windsor.....	July 21-27.....	1		
Prince Edward Island—				
Summerside.....	July 9-15.....	1		
Quebec—				
Montreal.....	July 7-13.....	1		
Ceylon:				
Colombo.....	Mar. 23-May 18...	8	2	
China:				
Amoy.....	Apr. 1-June 9.....			Present.
Antung.....	May 20-June 9.....	6	1	
Chungking.....	May 12-June 15.....			Present.
Dairen.....	May 7-June 24.....	50	10	
Hailar Station.....	Feb. 12-18.....	2		Chinese Eastern Ry.
Harbin.....	Mar. 20-26.....	2		Do.
Manchuria Station.....	Feb. 19-Apr. 8.....	5		Do.
Nanking.....	June 16-22.....			Present.
Hongkong.....	Apr. 6-May 18.....	4	1	
Shanghai.....	Apr. 21-June 2.....	3		
Tientsin.....	May 19-June 15.....	10		
Tsingtau.....	May 6-June 23.....	26		
Colombia:				
Barranquilla.....	July 14-20.....		1	
Cartagena.....	May 21-July 1.....		2	
Denmark:				
Copenhagen.....	June 16-22.....	13		
Ecuador:				
Guayaquil.....	Apr. 1-30.....	2		
Egypt:				
Alexandria.....	May 7-13.....	1		
France:				
La Rochelle.....	June 2-8.....	1	1	
Paris.....	Apr. 21-June 15.....	12	3	
Rouen.....	May 12-June 15.....	6		Including varioloid.
Great Britain:				
Liverpool.....	June 9-15.....	1		From vessel.
Greece:				
Kalamata.....	June 26.....			Present.
India:				
Bombay.....	Mar. 24-Apr. 6.....	731	356	
Calcutta.....	Apr. 14-20.....		60	
Karachi.....	Apr. 6-20.....	29	21	
Madras.....	Mar. 24-May 18.....	52	13	
Rangoon.....	Mar. 31-May 18.....	78	35	
Indo-China:				
Anam.....	Jan. 1-Feb. 28.....	566	93	Jan. 1-Feb. 28, 1918: Cases, 1,000;
Cambodia.....	Jan. 1-Feb. 28.....	43	9	deaths, 291.
Cochin-China.....	do.....	650	216	
Cholon.....	May 20-June 16.....	1		May 20-June 16, 1918: Cases, 67;
Kwang Chow-Wan.....	Feb. 1-28.....	2	1	deaths, 24.
Laos.....	Jan. 1-Feb. 28.....	8	1	
Tonkin.....	do.....	106	1	
Italy:				
Genoa.....	June 14-30.....	19	5	
Mezzojuso.....	May 29.....			Many cases. Province of Palermo, Sicily.
Milan.....				In April, 1918: Cases, 2. May 1-
Palermo.....	May 30-June 5.....	1		31, 1918: Cases, 54.
Turin.....	Apr. 15-June 9.....	16	1	
Japan:				
Nagasaki.....	May 20-June 30.....	14	1	
Taihoku.....	May 21-June 24.....	17	8	Island of Formosa.
Tokyo.....	May 5-June 23.....	17		Feb. 14-Mar. 13, 1918: Cases, 15.
Java:				
East Java.....				Feb. 12-Apr. 22, 1918: Cases, 20;
Surabaya.....	Feb. 26-Apr. 8.....	2	1	deaths, 4.
Mid-Java.....				Feb. 14-May 29, 1918: Cases, 90;
				deaths, 2.
West Java.....				Feb. 22-June 13, 1918: Cases, 440;
Batavia.....	Feb. 2-June 13.....	89	30	deaths, 105.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 29 to Aug. 16, 1918—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mesopotamia:				
Bagdad.....	Mar. 6-May 10.....	21	7	
Mexico:				
Aguascalientes.....	June 10-16.....		1	
Guadalajara.....	June 1-30.....	3		
Mazatlan.....	June 5-25.....		2	
Do.....	July 3-9.....		1	
Mexico City.....	May 19-June 22.....	79		
Do.....	June 30-July 13.....	6		
Philippine Islands:				
Manila.....	Apr. 28-June 22.....	803	547	Varioloid, 173 cases.
Portugal:				
Lisbon.....	Feb. 24-June 29.....	97		
Do.....	June 30-July 6.....	14		
Russia:				
Lithuania.....	Mar. 3-Apr. 13.....	31	3	
Siam:				
Bangkok.....	May 11-June 8.....	6	3	
Siberia:				
Vladivostok.....	May 1-June 15.....	31	5	
Spain:				
Coruna.....	Apr. 28-June 30.....	1	1	
Malaga.....	Dec. 1-31.....		29	
Do.....	Jan. 1-31.....		16	
Seville.....	Apr. 1-30.....		1	
Straits Settlements:				
Penang.....	May 5-11.....	2		
Union of South Africa:				
Johannesburg.....	Feb. 1-Apr. 30.....	37		
On vessel.....				1 case. At Liverpool, England.

TYPHUS FEVER.

Argentina:				
Rosario.....	Apr. 1-May 31.....		2	
Austria-Hungary:				
Hungary.....				Feb. 25-Apr. 14, 1918: Cases, 166; deaths, 4.
Budapest.....	Feb. 25-Apr. 14.....	30	1	
Brazil:				
Rio de Janeiro.....	May 26-June 1.....	1		
China:				
Antung.....	May 20-June 9.....	4		
Changsha.....	May 11-17.....	2	1	
Harbin.....	Jan. 1-Apr. 8.....	17		On Chinese Eastern Ry.
Manchuria Station.....	Jan. 15-Apr. 8.....	14		Do.
Shanghai.....	May 5-11.....		1	
Egypt:				
Alexandria.....	May 7-June 10.....	946	242	
Germany:				Mar. 24-May 11, 1918: Cases, 60 deaths, 9. Of these, 10 cases, 2 deaths, Mar. 24-Apr. 6, among prisoners of war.
Great Britain:				
Belfast.....	May 26-June 1.....	1		
Edinburgh.....	June 9-15.....		1	
Glasgow.....	May 19-June 1.....	13	4	
Greece:				
Athens.....	Apr. 14-May 13.....		5	
Saloniki.....	Apr. 28-June 22.....		35	
Italy:				
Corato.....	May 6-June 2.....	4		Province of Bari.
Molfetta.....	May 6-June 9.....	25		Do.
Naples.....	Apr. 29-May 5.....	1		
Japan:				
Nagasaki.....	May 27-June 2.....	1		
Tokyo.....	June 24-July 7.....	1		
Java:				
East Java.....				Feb. 12-Apr. 8, 1918: Cases, 29; deaths, 8.
Surabaya.....	Feb. 12-Apr. 8.....	22	6	
Mid-Java.....				Feb. 14-May 22, 1918: Cases, 32; deaths, 4.
Samarang.....	Feb. 21-May 22.....	10	2	
West Java.....				Feb. 28-June 6, 1918: Cases, 89; deaths, 18.
Batavia.....	Feb. 28-June 6.....	61	15	
Mesopotamia:				
Bagdad.....	Mar. 29-May 10.....	84		

CHOLERA, .PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**Reports Received from June 29 to Aug. 16, 1918—Continued.****TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Agua Calientes.....	July 8-14.....	.....	1	Epidemic; reported present from about June 15, 1918.
Chihuahua, State—Farral.....	July 10.....	.....	2	
Guadalupe.....	June 1-30.....	5	.....
Mexico City.....	May 19-June 22.....	186	.....
Do.....	June 30-July 13.....	83	.....
Portugal:				
Lisbon.....	Feb. 24-May 25.....	5	.....
Siberia:				
Vladivostok.....	May 1-June 15.....	16	2	
Russia:				
Lithuania.....	Mar. 3-Apr. 13.....	1,585	67	
Poland.....	Mar. 10-Apr. 27.....	6,270	553	
Lodz.....	do.....	341	62	
Warsaw.....	do.....	2,562	273	
Spain:				
Almeria.....	Apr. 1-30.....	1	.....
Tunisia:				
Tunis.....	May 18-June 28.....	11	3	
Union of South Africa:				
Cape of Good Hope State.....				Sept. 10, 1917-Apr. 21, 1918: Cases, 4,587 (European, 34); deaths, 939 (European, 25).
Natal.....				Dec. 1, 1917-Apr. 21, 1918: Cases, 50; deaths, 11.

YELLOW FEVER.

Brazil:				
Bahia.....	Apr. 27-June 13.....	16	5	
Ecuador:				
Guayaquil.....	Apr. 1-June 15.....	59	80	
Naranjal.....	do.....	2	1	